

# MHC-D60/GR7/GR7J/RX70

## SERVICE MANUAL

*US Model*  
MHC-D60/RX70

*Canadian Model*

*AEP Model*

*UK Model*

MHC-RX70

*E Model*

MHC-GR7/GR7J

*Australian Model*

MHC-GR7

- MHC-D60/GR7/GR7J/RX70 are composed following models.  
As for the service manual, it is issued for each component model,  
then, please refer to it.

### COMPONENTS MODEL NAME FOR MHC-D60/GR7/GR7J/RX70

|                                      | MHC-D60 | MHC-GR7                 |                           | MHC-GR7J | MHC-RX70                |                           |
|--------------------------------------|---------|-------------------------|---------------------------|----------|-------------------------|---------------------------|
| COMPACT DISC DECK<br>RECEIVER SYSTEM | HCD-D60 | HCD-GR7                 |                           | HCD-GR7J | HCD-RX70                |                           |
| SPEAKER SYSTEM                       | SS-L80  | SS-L80<br>(Black Model) | SS-L80H<br>(Silver Model) | SS-L80H  | SS-L80<br>(Black Model) | SS-L80H<br>(Silver Model) |

### SPECIFICATIONS

#### General

##### Power requirements

120 V AC, 60 Hz (US, CND model)  
120 V AC, 50/60 Hz (MX model)  
220-230 V AC, 50/60 Hz  
(AEP, UK, G, AED, EE, CIS model)  
220-240 V AC, 50/60 Hz (AUS, SA, TH model)  
110-120 V or 220-240 V AC, 50/60 Hz  
Adjustable with the voltage selector  
(OTHER models)

##### Power consumption

115 W (AEP, UK, G, AED, EE, CIS model)  
195 W (US, CND model)  
135 W (OTHER models)

#### • Abbreviation

CND : Canadian model  
G : German model  
EE : East European model  
AUS : Australian model  
TH : Thailand model  
AED : Northern European model  
SA : South African model  
MX : Mexican model

##### Supplied accessories

AM loop aerial (1)  
Remote RM-SD70 (1)  
Sony SUM-3 (NS) batteries (2)  
FM lead aerial (1)  
Speaker cords (2).

Design and specifications are subject to change without notice.

## COMPACT Hi-Fi STEREO SYSTEM



# SONY®

## PARTS LIST

### NOTE:

- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

### • Abbreviation

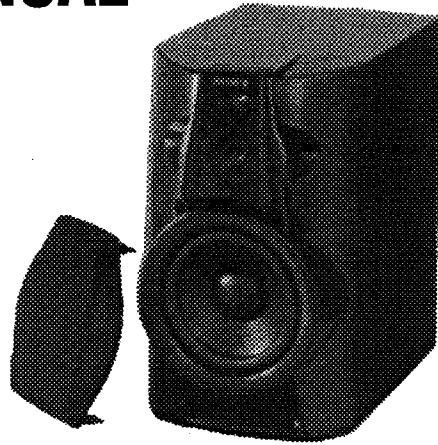
CND : Canadian model  
G : German model  
EE : East European model  
EA : Saudi Arabia model  
MX : Mexican model

SA : South African model  
SP : Singapore model  
HK : Hong Kong model  
TH : Thailand model  
TW : Taiwan model  
AUS : Australian model  
AED : Northern European model  
E3 : 240 V AC AREA

| Ref. No. | Part No.     | Description                                                          | Remark |
|----------|--------------|----------------------------------------------------------------------|--------|
|          | 1-501-374-11 | ANTENNA, LOOP                                                        |        |
|          | 1-501-659-11 | ANTENNA (FM)<br>(EXCEPT AEP, UK, G, AED, EE, CIS)                    |        |
|          | 1-501-807-11 | ANTENNA, (FM) (AEP, UK, G, AED, EE, CIS)                             |        |
|          | 1-769-306-11 | CORD, SPEAKER (SS) (2 m)                                             |        |
|          | 3-859-542-11 | MANUAL, INSTRUCTION (ENGLISH)<br>(US/CND/E/EA/MY/SP/HK/TW/MX/AUS/SA) |        |
|          | 3-859-542-21 | MANUAL, INSTRUCTION (FRENCH) (CND)                                   |        |
|          | 3-859-542-31 | MANUAL, INSTRUCTION (FRENCH, SPANISH)<br>(E/EA/MY/SP/HK/TW/MX)       |        |
|          | 3-859-542-41 | MANUAL, INSTRUCTION (CHINESE)<br>(E3/EA/MY/SP/HK/TW)                 |        |
|          | 3-859-542-51 | MANUAL, INSTRUCTION (ARABIC) (EA)                                    |        |
|          | 3-859-543-11 | MANUAL, INSTRUCTION (ENGLISH)<br>(AEP, UK, EE, CIS)                  |        |
|          | 3-859-543-21 | MANUAL, INSTRUCTION<br>(FRENCH, SPANISH, PORTUGUESE) (AEP)           |        |
|          | 3-859-543-31 | MANUAL, INSTRUCTION (GERMAN) (AEP, G)                                |        |
|          | 3-859-543-41 | MANUAL, INSTRUCTION (DUTCH, ITALIAN)<br>(AEP)                        |        |
|          | 3-859-543-51 | MANUAL, INSTRUCTION<br>(DANISH, FINISH, SWEDISH) (AED)               |        |
|          | 3-859-543-61 | MANUAL, INSTRUCTION (POLISH, RUSSIAN)<br>(EE, CIS)                   |        |
|          | 3-859-763-11 | MANUAL, INSTRUCTION (HUNGARIAN)<br>(EE, CIS)                         |        |
|          | 4-979-371-01 | COVER, BATTERY (for RM-SD70)                                         |        |
|          | 8-917-581-90 | REMOTE COMMANDER (RM-SD70)                                           |        |

# SS-L80/L80H/L100V/L100VH

## SERVICE MANUAL



*US Model  
Canadian Model  
AEP Model  
UK Model  
E Model  
Australian Model*

These are speaker system in following Stereo Component system.  
THE SYSTEM NAME FOR EACH SPEAKER

| STEREO COMPONENT SYSTEM | SPEAKER SYSTEM |
|-------------------------|----------------|
| MHC-D60                 | SS-L80         |
| MHC-RX80                |                |
| MHC-GR7<br>MHC-RX70     | SS-L80H        |
| MHC-GR7J                |                |
| MHC-D90AV               | SS-L100V       |
| MHC-RX100AV             |                |
| MHC-GR10AV              | SS-L100VH      |

### SPECIFICATION

Speaker System: 3-way, 3-unit  
bass-reflex type  
Speaker Units: Woofer : 15cm dia., cone type  
Center Tweeter : 5cm dia., cone type  
Super Tweeter : 2cm dia., cone type  
Normal Impedances: 6 ohm (EXCEPT L80:US,CND/L100V/L100VH)  
8 ohm (L80:US,CND/L100V/L100VH)  
Dimensions: Approx. 205 x 330 x 315 mm (w/h/d)  
Mass: Approx. 3.9kg net per speaker.

Design and specifications subject to change without notice.

## 3-WAY SPEAKER SYSTEM

# SONY®



## EXPLODED VIEW AND PARTS LIST

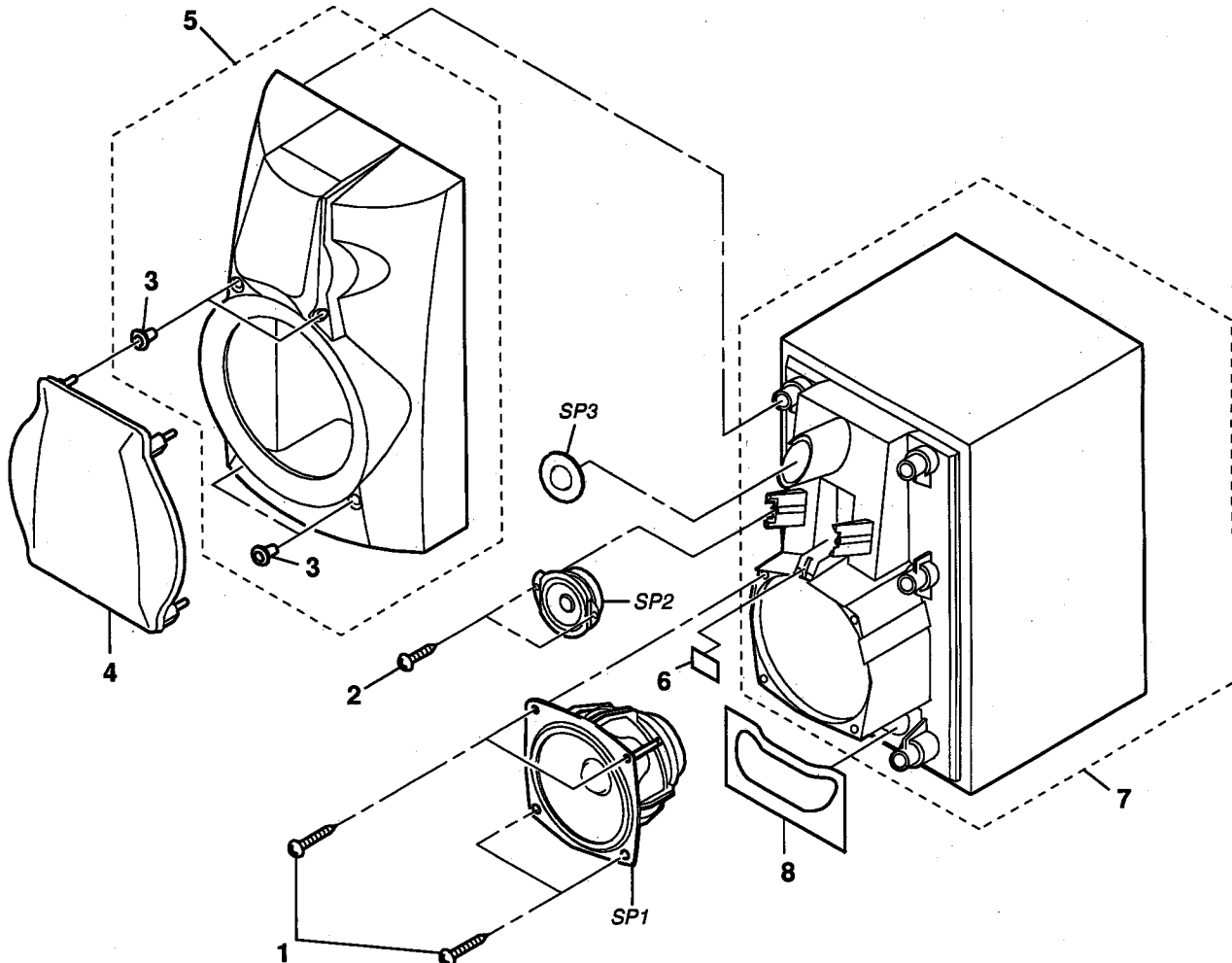
### NOTE:

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

### Abbreviation

- G : German
- AED : Finland, Norway, Denmark, Sweden



| Ref. No. | Part No.     | Description                                    | Remark |
|----------|--------------|------------------------------------------------|--------|
| 1        | 4-991-133-01 | SCREW (4) (3.5X18), +BVTP                      |        |
| 2        | 4-991-132-01 | SCREW (4) (3.5X12), +BVTP                      |        |
| * 3      | 4-963-075-01 | CATCHER                                        |        |
| 4        | X-4947-972-1 | FRAME ASSY, GRILLE (EXCEPT L80H/L100VH)        |        |
| 4        | X-4948-156-1 | FRAME ASSY, GRILLE (L80H/L100VH)               |        |
| 5        | X-4948-152-1 | PANEL ASSY, FRONT (L80H/L100VH)                |        |
| 5        | X-4947-971-1 | PANEL ASSY, FRONT (EXCEPT L80H/L100VH)         |        |
| 6        | 9-911-840-XX | PACKING                                        |        |
| * 7      | A-4384-384-A | CABINET ASSY, SPEAKER (L80/L100V:EXCEPT G,AED) |        |
| * 7      | A-4384-385-A | CABINET ASSY, SPEAKER (L80:G,AED)              |        |
| * 7      | A-4384-430-A | CABINET ASSY, SPEAKER (L80H/L100VH)            |        |
| * 7      | A-4384-435-A | CABINET ASSY, SPEAKER (L100V:G,AED)            |        |

| Ref. No. | Part No.     | Description                   | Remark |
|----------|--------------|-------------------------------|--------|
| * 8      | 4-988-096-01 | PACKING                       |        |
| SP1      | 1-505-520-11 | SPEAKER (15CM) (L100V/L100VH) |        |
| SP1      | 1-505-595-11 | SPEAKER (15CM) (L80/L80H)     |        |
| SP2      | 1-505-518-11 | SPEAKER (5CM)                 |        |
| SP3      | 1-505-563-11 | SPEAKER (2CM)                 |        |

\*\*\*\*\*

### ACCESSORIES & PACKING MATERIALS

\*\*\*\*\*

|   |              |                              |
|---|--------------|------------------------------|
|   | 1-769-306-11 | CORD, SPEAKER (L80/L80H)     |
|   | 1-769-317-11 | CORD, SPEAKER (L100V/L100VH) |
| * | 4-989-378-01 | CUSHION (L80/L80H)           |
| * | 4-989-390-01 | CUSHION (L100V/L100VH)       |



# HCD-D60/GR7/GR7J/RX70

## SERVICE MANUAL

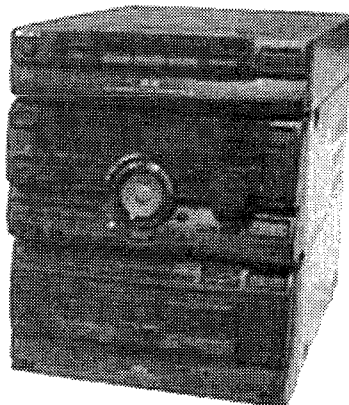


Photo: HCD-RX70

**US Model**  
HCD-D60/RX70  
**Canadian Model**  
**AEP Model**  
**UK Model**  
HCD-RX70  
**E Model**  
HCD-GR7/GR7J  
**Australian Model**  
HCD-GR7

HCD-D60/ GR7/GR7J/RX70 is the tuner, deck, CD and amplifier section in MHC-D60/ GR7/GR7J/RX70.

\* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing corporation. "DOLBY" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

| CD Section        | Model Name Using Similar Mechanism | NEW           |
|-------------------|------------------------------------|---------------|
|                   | CD Mechanism Type                  | CDM38-5BD29AL |
|                   | Base Unit Name                     | BU-5BD29AL    |
|                   | Optical Pick-up Name               | KSS-213D/Q-NP |
| Tape deck Section | Model Name Using Similar Mechanism | HCD-H881      |
|                   | Tape Transport Mechanism Type      | TCM-220WR2    |

### SPECIFICATIONS

#### For the US model

#### AUDIO POWER SPECIFICATIONS

#### POWER OUTPUT AND TOTAL

#### HARMONIC DISTORTION:

With 8 ohm loads, both channels driven, from 70-20,000 Hz; rated 100 watts per channel minimum RMS power, with no more than 0.9% total harmonic distortion from 250 milliamps to rated output.

#### Amplifier section

Continuous RMS power output

Canadian model

100+100 watts

(8 ohms at 1 kHz, 5% THD)

AEP, German, East European, UK and CIS models

55+55 watts

(6 ohms at 1 kHz, 10% THD)

Other models

70+70 watts

(6 ohm sat 1 kHz, 10% THD)

Peak music power output (GR7/GR7J) :

1000 watts

Music power output

(AEP, German, East European, UK and CIS model):

95+95 watts

(6 ohms at 1kHz, 10% THD)

#### Inputs

VIDEO/MD IN (phono jacks) :

voltage 250 mV, impedance 47 kilo ohms

MIX MIC (phone jack):

sensitivity 1 mV,

impedance 10 kilo ohms

#### Outputs

VIDEO/MD OUT (phono jacks) :

voltage 250 mV impedance

1 kilo ohms

PHONES (stereo phone jack) :

accepts headphones of 8 ohms or more.

SPEAKER : accepts impedance of

8 to 16 ohms (D60/RX70)

accepts impedance of 6 to 16 ohms (GR7/GR7J)

SURROUND SPEAKER

(US and Canadian models):

accepts impedance of 16 ohms.

SUPER WOOFER (GR7/GR7J/

RX70 : US and Canadian models):

Voltage 1 V, impedance 1 kilo ohm

#### CD player section

System

Compact disc and digital audio system

Laser

Semiconductor laser

( $\lambda=780\text{nm}$ )

Emission duration: continuous

Max. 44.6  $\mu\text{W}$ \*

Laser output

\*This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture.

Frequency response

2 Hz - 20 kHz ( $\pm 0.5$  dB)

Wavelength

780-790 nm

Signal-to-noise ratio

More than 90 dB

Dynamic range

More than 90 dB

CD OPTICAL DIGITAL OUT

(Square optical connector jack, rear panel)

(Except US model)

Wavelength

600 nm

Output Level

-18 dBm

- Continued on next page -

## COMPACT DISC DECK RECEIVER



# SONY®

### Tape player section

Recording system 4-track 2-channel stereo  
Frequency response 60 - 13,000 Hz ( $\pm 3$  dB), using Sony TYPE I cassette  
(DOLBY NR OFF) 60 - 14,000 Hz ( $\pm 3$  dB), using Sony TYPE II cassette  
Wow and flutter  $\pm 0.15\%$  W. Peak (IEC)  
0.1% W.RMS (NAB)  
 $\pm 0.2\%$  W. Peak (DIN)

### Tuner section

FM stereo, FM/AM superheterodyne tuner

### FM tuner section

#### Tuning range

East European and CIS models:

65.0 - 74.0 MHz

87.5 - 108.0 MHz

Other models

87.5 - 108.0 MHz

Antenna terminals

75 ohm unbalanced

Intermediate frequency 10.7 MHz

**UKV tuner section** (East European and CIS models)

Tuning range 65.0 - 74.0 MHz Polar stereo

### AM tuner section

Tuning range

US and Canadian models:

530 - 1,710 kHz

(with the AM tuning interval set at 10 kHz)

531 - 1,710 kHz

(with the AM tuning interval set at 9 kHz)

EA4, E2, Mexican, Australian and Thailand models:

531 - 1,602 kHz

(with the AM tuning interval set at 9 kHz)

530 - 1,710 kHz

(with the AM tuning interval set at 10 kHz)

AEP, German, East European, UK and CIS models:

MW 531 - 1,602 kHz

(with the MW tuning interval set at 9 kHz)

LW 153 - 279 kHz

(with the LW tuning interval set at 3 kHz)

Other models:

MW 531 - 1,602 kHz

(with the MW tuning interval set at 9 kHz)

530 - 1,710 kHz

(with the MW tuning interval set at 10 kHz)

SW 5.95 - 17.90 MHz

(with the SW tuning interval set at 5 kHz)

Intermediate frequency 450 kHz

Antenna

AM loop antenna

External antenna terminal

### General

Power requirements

US and Canadian models:

120 V AC, 60 Hz

Mexican model:

120 V AC, 50/60 Hz

AEP, German, East European, UK and CIS models:

220 - 230 V AC, 50/60 Hz

Australian and South African models:

220 - 240 V AC, 50/60 Hz

EA4 and Thailand model:

220 - 240 V AC, 50/60 Hz

Other models:

110 - 120 V or 220 - 240 V AC,

50/60 Hz Adjustable with voltage selector

Power consumption

US and Canadian models:

195 watts

AEP, German, East European, UK and CIS models:

115 watts

Other models:

135 watts

Dimensions (w/h/d)

Approx. 280x330x366 mm

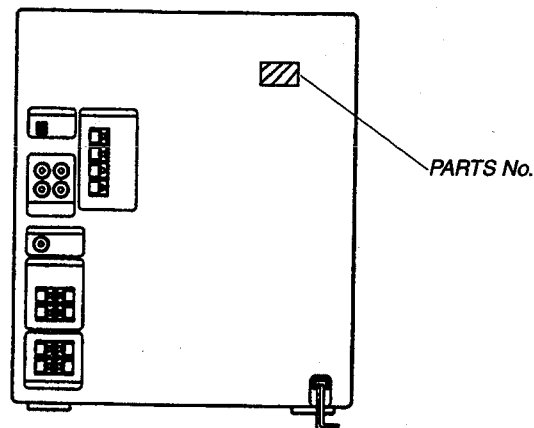
Mass

Approx. 9.3 kg

Design and specifications are subject to change without notice.

### MODEL IDENTIFICATION

- BACK PANEL -



| MODEL                               | PARTS NO.    |
|-------------------------------------|--------------|
| D60 : US model                      | 4-986-844-7□ |
| GR7 : E3 model                      | 4-988-019-0□ |
| GR7 : E2 model                      | 4-988-019-1□ |
| GR7 : MY, SP model                  | 4-988-019-2□ |
| GR7 : EA3, TW model/GR7J: EA3 model | 4-988-019-3□ |
| GR7 : HK model                      | 4-988-019-4□ |
| GR7 : AUS model                     | 4-988-019-5□ |
| GR7 : MX model                      | 4-988-019-6□ |
| GR7 : EA4, SAF, TH model            | 4-988-019-7□ |
| RX70 : US model                     | 4-986-844-0□ |
| RX70 : CND model                    | 4-986-844-1□ |
| RX70 : AEP, AED, G, UK model        | 4-986-844-2□ |
| RX70 : CIS, EE model                | 4-986-844-3□ |

#### • Abbreviation

AED : Northern European model  
AUS : Australian  
CND : Canadian  
E2 : 120 V AC Area in E model  
E3 : 240 V AC Area in E model  
EA3 : Saudi Arabia  
EA4 : Israeli  
EE : East European  
G : German  
HK : Hong Kong  
MX : Mexican  
MY : Malaysia  
SAF : South African  
SP : Singapore  
TH : Thailand  
TW : Taiwan

### CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

CLASS 1 LASER PRODUCT  
LUOKAN 1 LASERLAITE  
KLASS 1 LASERAPPARAT

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

The following caution label is located inside the unit.

|          |                                                                                                                     |
|----------|---------------------------------------------------------------------------------------------------------------------|
| CAUTION  | : INVISIBLE LASER RADIATION WHEN OPEN.<br>AVOID EXPOSURE TO BEAM.                                                   |
| ADVARSEL | : USYNLIG LASERSTRÅLING VED ÅBNING NÅR<br>SIKKERHEDSÅFBRYDERE ER UDE AF FUNKTION.<br>UNDGÅ UDSÆTTELSE FOR STRÅLING. |
| VARO!    | : AVATTAESSA JA SUOJALUKITUS OHITETTAESSA<br>OLET ALTIINA LASERSÄTEILYLLE.                                          |
| VARNING  | : LASERSTRÅLING NÅR DENNA DEL ÄR ÖPPNAD<br>OCH SPÄRREN ÄR URÖPPPLAD.                                                |
| ADVARSEL | : USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES<br>UNNGÅ EKSPONERING FOR STRÅLEN.                                          |

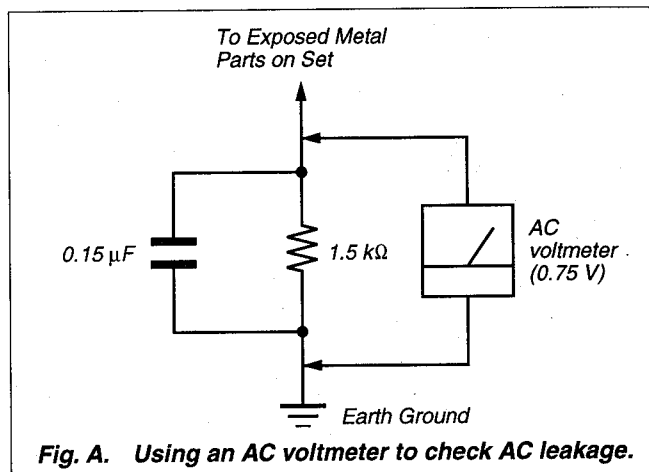
### SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer: Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

### LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes.). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)



### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  $\triangle$  OR DOTTED LINE WITH MARK  $\triangle$  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

### ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE  $\triangle$  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

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## SERVICING NOTES

### NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body. During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.

The flexible board is easily damaged and should be handled with care.

### NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

### Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

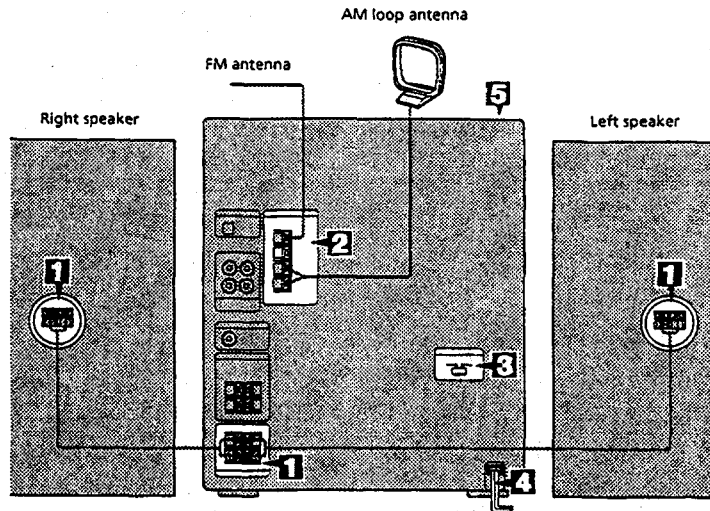
### Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

## Getting Started

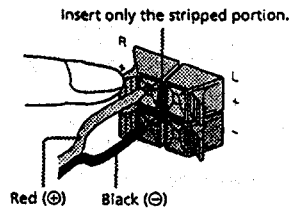
### Step 1: Hooking up the system

Do the following procedure **1** to **5** to hook up your system using the supplied cords and accessories.



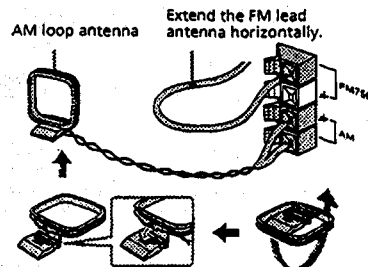
#### 1 Connect the speakers.

Connect the speaker cords to the **SPEAKER** jacks of the same color. Keep the speaker cords away from the antennas to prevent noise.

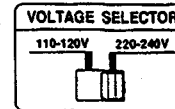


#### 2 Connect the FM/AM antennas.

Set up the AM loop antenna, then connect it.



- 3** Set **VOLTAGE SELECTOR** to position of your local power line voltage (except for North American, Mexican, and Australian models).

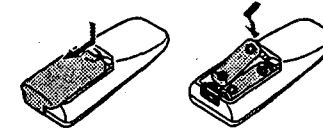


- 4** Connect the power cord to a wall outlet.

Demo mode appears in the display. If the plug on this unit does not fit your wall outlet, detach the supplied adapter from the plug (except for North and South American countries, Australia and Malaysia).

- 5** Deactivate the demo mode by pressing **DISPLAY/DEMO** when the system power is turned off. The demo mode is also deactivated when you set the time.

### Inserting two size AA (R6) batteries into the remote



#### Tip

With normal use, the batteries should last for about six months. When the remote no longer operates the system, replace both batteries with new ones.

#### Note

If you do not use the remote for a long period of time, remove the batteries to avoid possible damage from battery leakage.

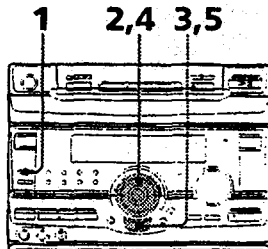
### When carrying this system

Do the following to protect the CD mechanism.

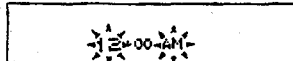
- 1 Press **FUNCTION** repeatedly until "CD" appears in the display.
- 2 Hold down **PLAY MODE** and press **POWER** to turn off the power.

## Step 2: Setting the time

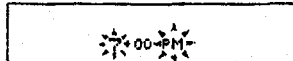
You must set the time before using the timer functions.



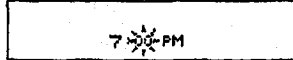
- 1 Press **CLOCK TIMER SET**.  
The hour indication flashes.



- 2 Turn the jog dial to set the hour.  
The clock is on a 12-hour system.



- 3 Press **ENTER/NEXT**.  
The minute indication flashes.



- 4 Turn the jog dial to set the minute.

- 5 Press **ENTER/NEXT**.  
The clock starts working.

### Tips

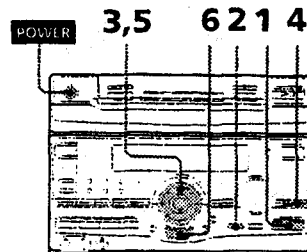
- If you've made a mistake, start over from step 1.
- Setting the time deactivates the demo mode.  
If you want to display the demo mode, press **DISPLAY/DEMO** when the power is off.

### Note

When setting the time, set the equalizer display to anything other than Spectrum analyzer pattern 3. (See "To change the equalizer display" on page 30.)

## Step 3: Presetting radio stations

You can preset up to 40 stations, 20 for FM, 10 for MW and 10 for SW. For North and South American, Australian and Thai models, you can preset up to 30 stations, 20 for FM and 10 for AM.



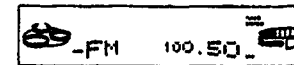
- 1 Press **TUNER/BAND** repeatedly until the band you want appears in the display.

Every time you press this button, the band changes as follows:  
North and South American, Australian and Thai models:

FM ↔ AM  
Other models:  
FM → MW → SW

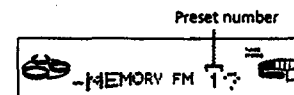
- 3 Turn the jog dial.

The frequency indication changes and scanning stops when the system tunes in a station. "TUNED" and "STEREO" (for a stereo program) appear.



- 4 Press **TUNER MEMORY**.

A preset number appears in the display.



- 5 Turn the jog dial to select the preset number you want.

- 6 Press **ENTER/NEXT**.  
The station is stored.

- 7 Repeat steps 1 to 6 to store other stations.

### To tune in a station with a weak signal

Press **TUNING MODE** repeatedly to select "MANUAL" in step 2, then turn the jog dial to tune in the station.

### To change the preset number

Start over from step 1.

### To change the AM tuning interval (Except for the Middle Eastern model)

The AM tuning interval is factory-preset to 9 kHz (10 kHz in some areas). To change the AM tuning interval, tune in any AM station first, then turn off the power. While holding down the **ENTER/NEXT** button, turn the power back on. When you change the interval, AM preset stations will be erased. To reset the interval, repeat the same procedure.

### Tip

The preset stations are retained for half a day even if you unplug the power cord or if a power failure occurs.

## Connecting optional AV components

To enhance your system, you can connect optional components. Refer to the instructions of each component.

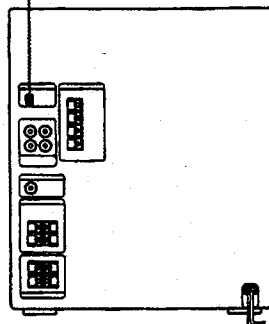
### Connecting audio components

Select one of the following two connections, depending on the equipment to be connected and method of connecting.

#### Connecting an MD deck for digital recording (except U.S. model)

You can record from CD into the MD deck digitally by connecting an optical cable.

To the DIGITAL IN jack of the MD deck

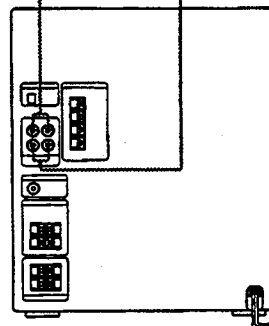


#### Connecting an MD deck for analog recording

Make sure to match the color of the plugs and the connectors. To listen to the sound of the connected MD deck, press FUNCTION repeatedly until "MD" appears.

To the audio output of the MD deck

To the audio input of the MD deck



#### Note

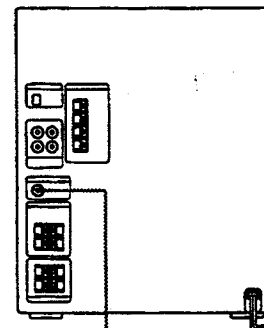
If you cannot select "MD" even when you have pressed FUNCTION, press POWER while pressing FUNCTION when the power is turned off. "VIDEO" will be switched to "MD". To return to "VIDEO" do the same procedure.

#### Tip

If you connect a turntable with MM cartridge, connect it to VIDEO/MD IN using the optional MM cartridge equalizer EQ-2 and an audio connecting cord. To listen to the sound, press FUNCTION repeatedly until "VIDEO" appears.

#### Connecting a super woofer speaker (except for MHC-D60)

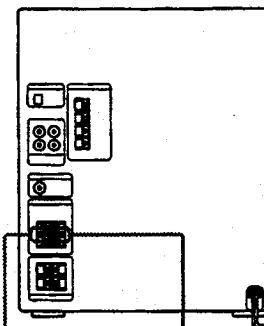
You can connect an optional super woofer speaker.



To super woofer

#### Connecting surround speakers (U.S. and Canadian models only)

You can connect an optional surround speakers.



To surround speaker (R)

To surround speaker (L)

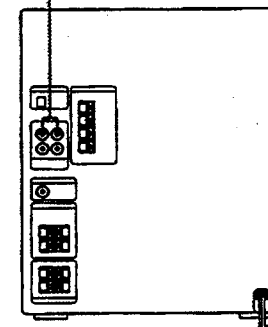
#### Note

You need to connect both left and right surround speakers. Otherwise, the sound will not be heard.

#### Connecting a VCR

Make sure to match the color of the plugs and the connectors. To listen to the sound of the connected VCR, press FUNCTION repeatedly until "VIDEO" appears.

To the audio output of the VCR



#### Note

If the sound is distorted when selecting "VIDEO", switch to "MD" (see "Note" on page 8).

continued

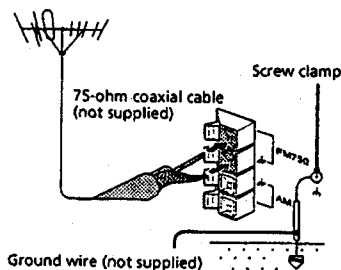
## Connecting optional AV components (continued)

### Connecting outdoor antennas

Connect the outdoor antenna to improve the reception.

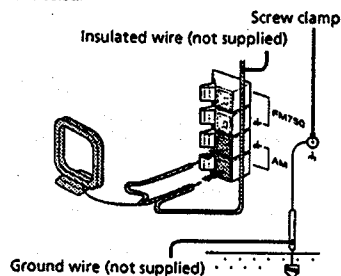
#### FM antenna

Connect the optional FM outdoor antenna. You can also use the TV antenna instead.



#### AM antenna

Connect a 6- to 15- meter (20- to 50- feet) insulated wire to the AM antenna terminal. Leave the supplied AM loop antenna connected.



#### Important

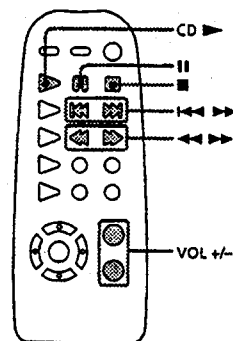
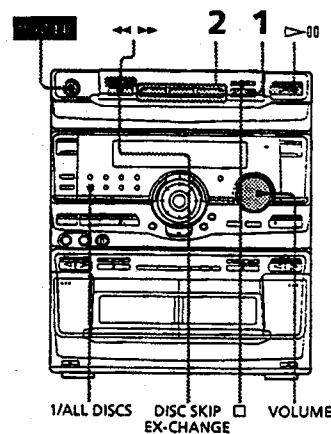
If you connect an outdoor antenna, ground from the terminal with the screw clamp. To prevent a gas explosion, do not connect the ground wire to a gas pipe.

## Basic Operations

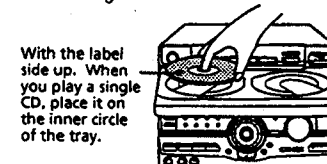
### Playing a CD

#### — Normal play

You can play up to three CDs in a row.



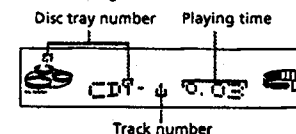
- 1 Press  $\Delta$  OPEN/CLOSE and place up to two CDs on the disc tray. If a disc is not placed properly it will not be recognized.



With the label side up. When you play a single CD, place it on the inner circle of the tray.

To insert a third disc, press DISC SKIP EX-CHANGE to rotate the disc tray.

- 2 Press one of the DISC 1-3 buttons. The disc tray closes and play starts. If you press  $\triangleright$  (or  $\triangleright$  on the remote) when the disc tray is closed, play starts from the CD loaded on the tray whose button is lit green.



continued



### Playing a CD (continued)

| To                                 | Do this                                                                                                                                                                                                                                                          |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Stop play                          | Press $\square$ (■ on the remote).                                                                                                                                                                                                                               |
| Pause                              | Press $\triangleright \parallel$ (■ on the remote). Press again to resume play.                                                                                                                                                                                  |
| Select a track                     | During play or pause, turn the jog dial clockwise (to go forward) or counterclockwise (to go back) and release it when you reach the desired track. Or press $\triangleright \parallel$ (to go forward) or $\parallel \triangleleft$ (to go back) on the remote. |
| Find a point in a track            | Press and hold down $\triangleright \parallel$ or $\parallel \triangleleft$ (or $\triangleright \parallel / \parallel \triangleleft$ on the remote) during play and release it at the desired point.                                                             |
| Select a CD in stop mode           | Press a DISC 1-3 button or DISC SKIP EX-CHANGE.                                                                                                                                                                                                                  |
| Play only the CD you have selected | Press 1/ALL DISCS repeatedly until "1 DISC" appears.                                                                                                                                                                                                             |
| Play all CDs                       | Press 1/ALL DISCS repeatedly until "ALL DISCS" appears.                                                                                                                                                                                                          |
| Remove the CD                      | Press $\oplus$ OPEN/CLOSE.                                                                                                                                                                                                                                       |
| Exchange other CDs while playing   | Press DISC SKIP EX-CHANGE.                                                                                                                                                                                                                                       |
| Adjust the volume                  | Turn VOLUME (or press VOL +/- on the remote).                                                                                                                                                                                                                    |

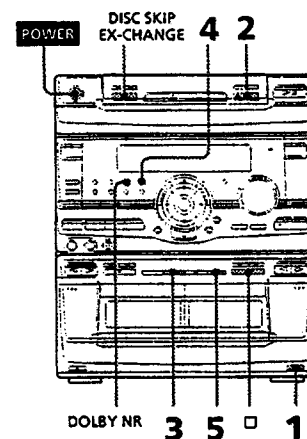
### Tips

- Pressing  $\triangleright \parallel$  when the power is off automatically turns the power on and starts CD playback if there is a CD in the tray (One Touch Play).
- You can switch from another source to the CD player and start playing a CD just by pressing  $\triangleright \parallel$  or the DISC 1-3 buttons (Automatic Source Selection).
- If there is no CD in the player, "CD NO DISC" appears in the display.
- When a disc tray is selected or the CD placed on that tray is playing, the DISC 1-3 button for the respective tray lights green.

## Recording a CD

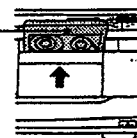
### — CD Synchro Recording

The CD SYNCHRO button lets you record from a CD to a tape easily. You can use TYPE I (normal) or TYPE II (CrO<sub>2</sub>) tapes. The recording level is adjusted automatically.



- 1 Press  $\oplus$  EJECT and insert a blank tape into deck B.

With the side you want to record facing forward



- 2 Press  $\oplus$  OPEN/CLOSE and place a CD.

Then press again to close the disc tray. If the indicator for the tray you want to record is not lit green, press DISC SKIP EX-CHANGE repeatedly so that it lights green.

With the label side up. When you play a single CD, place it on the inner circle of the tray.



- 3 Press CD SYNCHRO. Deck B stands by for recording and the CD player stands by for playback.  $\triangleright$  (for front side) lights up.
- 4 Press DIRECTION repeatedly to select  $\equiv$  to record on one side. Select  $\curvearrowright$  (or RELAY) to record on both sides.
- 5 Press  $\parallel \parallel$  on deck B. Recording starts.

### To stop recording

Press  $\square$  on deck B or on the CD player.

### Tips

- If you want to record from the reverse side, press  $\triangleleft$  so that  $\triangleleft$  (for reverse side) lights up.
- When you record on both sides, be sure to start from the front side. If you start from the reverse side, recording stops at the end of the reverse side.
- When you want to reduce the hiss noise in low-level high-frequency signals, press DOLBY NR so that "DOLBY NR B" appears after pressing CD SYNCHRO.

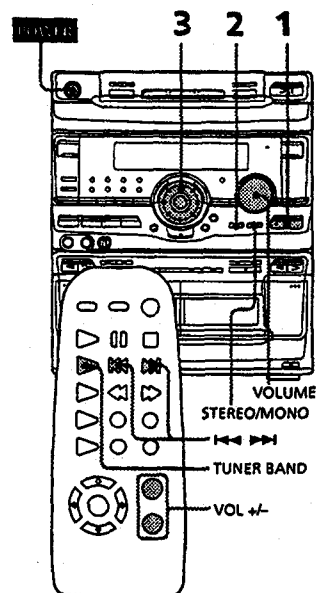
### Note

You cannot listen to other sources while recording.

## Listening to the radio

### — Preset Tuning

Preset radio stations in the tuner's memory first (see "Step 3: Presetting radio stations").



- 1 Press TUNER/BAND repeatedly until the band you want appears in the display.

Every time you press the button, the band changes as follows:  
North and South American, Australian and Thai models:

FM → AM  
Other models:  
FM → MW → SW

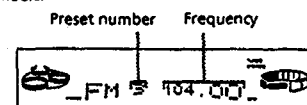
FM → MW → SW

- 2 Press TUNING MODE repeatedly so that "PRESET" appears in the display.

MANUAL → AUTO → PRESET

- 3 Turn the jog dial (or press ◀◀ or ▶▶ on the remote) to tune in the desired preset station.

Turn counter-clockwise (or press ◀◀ on the remote) for lower preset numbers. Turn clockwise (or press ▶▶ on the remote) for higher preset numbers.



| To                 | Do this                                       |
|--------------------|-----------------------------------------------|
| Turn off the radio | Press POWER.                                  |
| Adjust the volume  | Turn VOLUME (or press VOL +/- on the remote). |

## To listen to non-preset radio stations

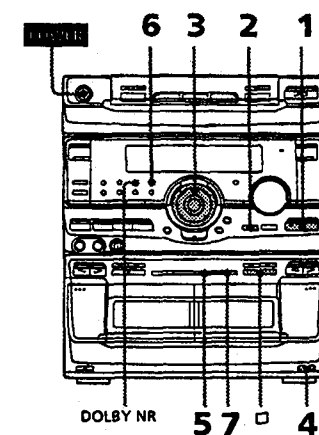
Press TUNING MODE repeatedly so that "MANUAL" appears in step 2, then tune in the station by turning the jog dial.

### Tips

- Pressing TUNER/BAND when the power is off automatically turns the power on and tunes to the last received station (One Touch Play).
- You can switch from another source to the radio just by pressing TUNER/BAND (Automatic Source Selection).
- When an FM program is noisy, press STEREO/MONO so that "MONO" appears in the display. There will be no stereo effect, but the reception will improve. Press the button again to restore the stereo effect.
- To improve broadcast reception, reorient the supplied antennas.

## Recording from the radio

You can record the radio program on a tape by calling up a preset station. You can use TYPE I (normal) or TYPE II (CrO<sub>2</sub>) tapes. The recording level is automatically adjusted.

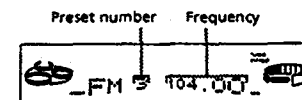


- 1 Press TUNER/BAND to select the band you want.

- 2 Press TUNING MODE so that "PRESET" appears in the display.

- 3 Turn the jog dial to tune in a preset station.

Turn counter-clockwise for lower preset numbers. Turn clockwise for higher preset numbers.

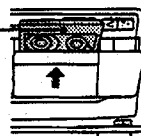


continued

## Recording from the radio (continued)

- 4 Press **EJECT** and insert a blank tape into deck B.

With the side you want to record facing forward



- 5 Press **●**.  
Deck B stands by for recording.

- 6 Press **DIRECTION** repeatedly to select **==** to record on one side. Select **◁▷** (or **RELAY**) to record on both sides.

- 7 Press **⏏** on deck B.  
Recording starts.

### To stop recording

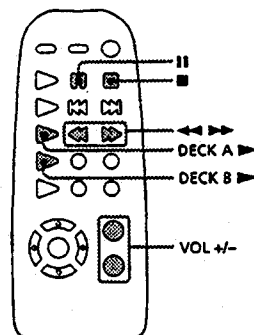
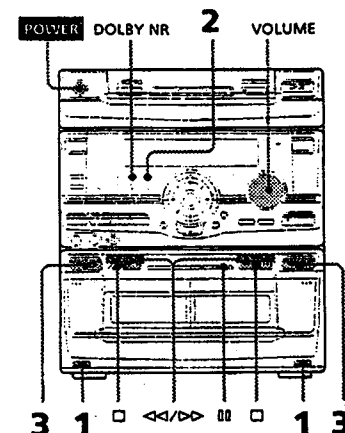
Press **□** on deck B.

### Tips

- If you want to record from the reverse side, press **◁** so that **◁** (for reverse side) lights up.
- When you record on both sides, be sure to start from the front side. If you start from the reverse side, recording stops at the end of the reverse side.
- To record non-preset stations, select "MANUAL" in step 2, then turn the jog dial to tune in the desired station.
- When you want to reduce the hiss noise in low-level high-frequency signals, press **DOLBY NR** so that "DOLBY NR B" appears after pressing **●**.
- If noise is heard while recording from the radio, move the respective antenna to reduce the noise.

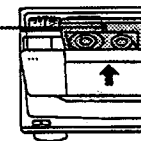
## Playing a tape

You can use any type of tape, TYPE I (normal), TYPE II (CrO<sub>2</sub>) or TYPE IV (metal), since the deck automatically detects the tape type. To select either deck A or B, press **DECK A** or **DECK B** on the remote.



- 1 Press **EJECT** and insert a recorded tape in deck A or B.

With the side you want to play facing forward



- 2 Press **DIRECTION** repeatedly to select **==** to play one side. Select **◁▷** to play both sides.  
To play both decks in succession, select **RELAY** (relay play).\*

- 3 Press **▷**.  
Press **◁** to play the reverse side. The tape starts playing.

\* The deck stops automatically after repeating the sequence five times.

\*\* Relay play always follows the following sequence:

Deck A (front side), Deck A (reverse side), Deck B (front side), Deck B (reverse side).

| To                  | Do this                                                                                 |
|---------------------|-----------------------------------------------------------------------------------------|
| Stop play           | Press <b>□</b> (or <b>■</b> on the remote).                                             |
| Pause (Deck B only) | Press <b>⏏</b> . Press again to resume play.                                            |
| Fast-forward        | Press <b>⏏</b> while playing the front side or <b>◁</b> while playing the reverse side. |
| Rewind              | Press <b>◁</b> while playing the front side or <b>⏏</b> while playing the reverse side. |
| Remove the cassette | Press <b>EJECT</b> .                                                                    |
| Adjust the volume   | Turn <b>VOLUME</b> (or press <b>VOL +/-</b> on the remote).                             |

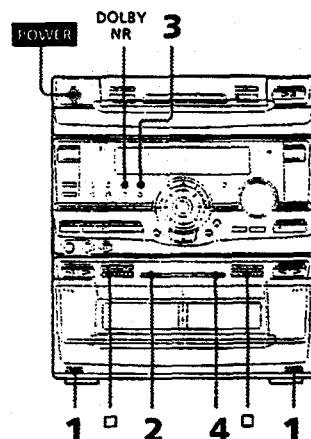
### Tips

- Pressing **▷** or **◁** when the power is off automatically turns the power on and starts tape playback if there is a tape in the deck (One Touch Play).
- You can switch from another source to the tape deck just by pressing **▷** or **◁** (Automatic Source Selection).
- When you want to reduce the hiss noise in low-level high-frequency signals, press **DOLBY NR** so that "DOLBY NR B" appears.
- When dubbing tapes originally recorded with Dolby NR B, the dubbed tape is automatically played with Dolby NR B.

## Recording from a tape

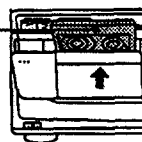
### — High-speed Dubbing

You can use TYPE I (normal) or TYPE II (CrO<sub>2</sub>) tapes. The recording level is automatically adjusted.



- 1 Press EJECT and insert a recorded tape in deck A and a blank tape in deck B.

With the side you want to play/record facing forward



- 2 Press HIGH SPEED DUBBING. Deck B stands by for recording.
- 3 Press DIRECTION repeatedly to select to record on one side. Select (or RELAY) to record on both sides.

- 4 Press . Dubbing starts.

### To stop dubbing

Press on deck A or B.

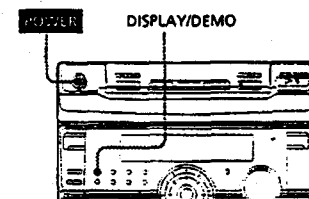
### Tips

- When you dub on both sides, start recording from the front side. If you record from the reverse side, recording stops at the end of the reverse side.
- If you set DIRECTION to when the tapes you use have different lengths, the tape in each deck reverses independently. If you select RELAY, the tapes in both decks reverse together.
- You don't have to set DOLBY NR, since the tape in deck B is automatically recorded in the same state as the tape in deck A.

## The CD Player

### Using the CD display

You can check the remaining time of the current track or that of the CD.



- Press DISPLAY/DEMO during playback. Each time you press the button during normal playback, the display changes as follows:

```

Playing time on the current track
↓
Remaining time on the current track
↓
Remaining time on current CD (1 DISC mode) or
"PLAY" display (ALL DISCS mode)
↓
Clock display (for eight seconds)
↓
Effect (P FILE) name or "EFFECT ON (OFF)"
    
```

### To check the total playing time and the number of tracks on a CD

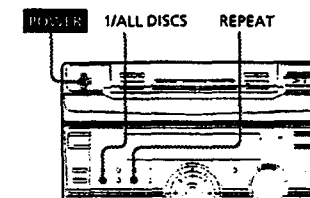
Press DISPLAY/DEMO in the stop mode.

If you press DISPLAY/DEMO again, the clock display appears for eight seconds then the display returns to the previous indication.

## Playing the CD tracks repeatedly

### — Repeat Play

This function lets you repeat a single CD or all CDs in normal play, Shuffle Play and Program Play.



- Press REPEAT during playback until "REPEAT" appears in the display. Repeat Play starts. Do the following procedure to change the repeat mode.

| To repeat                        | Press                                                                                                 |
|----------------------------------|-------------------------------------------------------------------------------------------------------|
| All the tracks on the current CD | 1/ALL DISCS repeatedly until "1 DISC" appears in the display.                                         |
| All the tracks on all CDs        | 1/ALL DISCS repeatedly until "ALL DISCS" appears in the display.                                      |
| Only one track*                  | REPEAT repeatedly until "REPEAT 1" appears in the display while playing the track you want to repeat. |

\* You can't repeat a single track during Shuffle Play and Program Play.

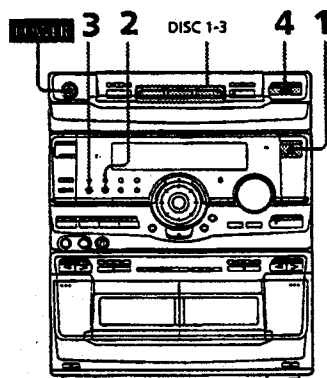
### To cancel Repeat Play

Press REPEAT so that "REPEAT" or "REPEAT 1" disappears from the display.

## Playing the CD tracks in random order

### — Shuffle Play

You can play all the tracks on one CD or all CDs in random order.



- 1** Press FUNCTION repeatedly until "CD" appears in the display, then place a CD.
- 2** Press PLAY MODE repeatedly until "SHUFFLE" appears in the display.
- 3** Press 1/ALL DISCS to choose "1 DISC" or "ALL DISCS". "ALL DISCS" shuffles all the CDs in the player. "1 DISC" shuffles the CD whose DISC indicator is green.
- 4** Press  $\triangleright \parallel$ . "t" appears and then all the tracks play in random order.

### To cancel Shuffle Play

Press PLAY MODE repeatedly until "SHUFFLE" or "PROGRAM" disappears from the display. The tracks continue playing in their original order.

### To select a desired CD

Press DISC 1-3.

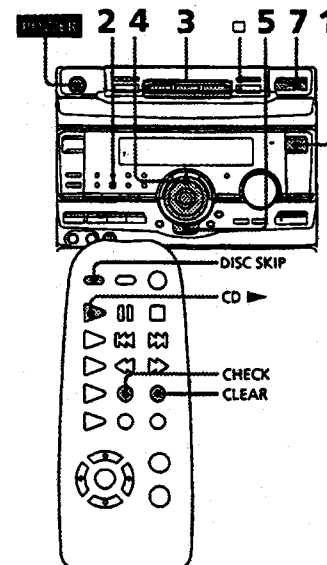
### Tips

- You can start Shuffle Play during normal play by pressing PLAY MODE repeatedly to select "SHUFFLE".
- To skip a track, turn the jog dial clockwise (or press  $\triangleright$  on the remote).

## Programming the CD tracks

### — Program Play

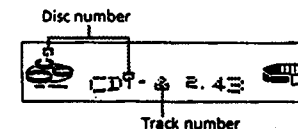
You can make a program of up to 32 tracks from all the CDs in the order you want them to be played.



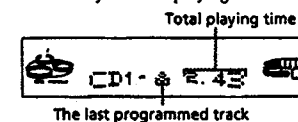
- 1** Press FUNCTION repeatedly until "CD" appears in the display, then place a CD.
- 2** Press PLAY MODE repeatedly until "PROGRAM" appears in the display.

- 3** Press one of the DISC 1-3 buttons to select a CD.

- 4** Turn the jog dial until the desired track appears in the display.



- 5** Press ENTER/NEXT. The track is programmed. "STEP" and the programmed playing order appear, followed by the total playing time.



- 6** To program additional tracks, repeat steps 3 to 5. Skip step 3 to select tracks from the same disc.
- 7** Press  $\triangleright \parallel$ . All the tracks play in the order you selected.

### To cancel Program Play

Press PLAY MODE repeatedly until "PROGRAM" or "SHUFFLE" disappears from the display.

continued

## Programming the CD tracks (continued)

| To                         | Press                                                                                                                |
|----------------------------|----------------------------------------------------------------------------------------------------------------------|
| Check the program          | CHECK on the remote repeatedly. After the last track, "CHECK END" appears.                                           |
| Clear a track from the end | CLEAR on the remote in stop mode.                                                                                    |
| Clear a specific track     | CHECK on the remote repeatedly until the number of the track to be erased lights up, then press CLEAR.               |
| Add a track to the program | 1 Select the disc tray with a DISC 1-3 button.<br>2 Select the track by turning the jog dial.<br>3 Press ENTER/NEXT. |
| Clear the entire program   | □ once in stop mode or twice while playing.                                                                          |

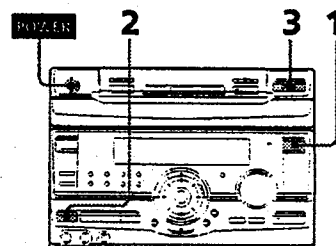
### Tips

- The program you made remains in the CD player even after it has been played back. Press ▷00 to play the same program again.
- If "----" appears instead of the total playing time during programming, this means:
  - you have programmed a track number which exceeds 20
  - the total playing time has exceeded 100 minutes.

## Playing CDs without interruption

### — Non Stop Play

You can play CDs without pausing between tracks.



**1** Press FUNCTION repeatedly until "CD" appears in the display, then place a CD.

**2** Press NON-STOP so that the indicator on the button lights up.

**3** Press ▷III.

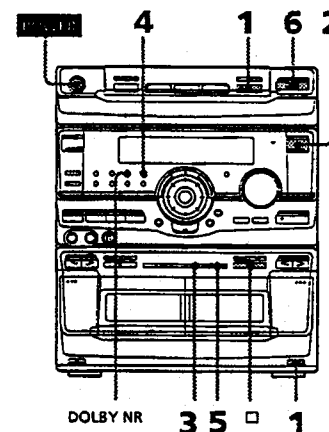
### To cancel Non Stop Play

Press NON-STOP so that the indicator on the button goes out.

## The Tape Deck

### Recording on a tape manually

You can record from CD, tape, or radio as you like. For example, you can record just the songs you want or record from the middle of the tape. The recording level is adjusted automatically.



**5** Press 00 on deck B. Recording starts.

**6** Start playing the source to be recorded.

| To              | Press            |
|-----------------|------------------|
| Stop recording  | □ on the deck B  |
| Pause recording | 00 on the deck B |

### Tips

- If you want to record from the reverse side, press ◀ so that ◀ (for reverse side) lights up.
- When you want to reduce the hiss noise in low-level high-frequency signals, press DOLBY NR so that "DOLBY NR B" appears after pressing ●.
- To skip tracks while recording from a tape, press ▷▷ or ◀◀ on deck A. Deck B stands by for recording, and you can skip tracks. To resume dubbing, press 00 on deck B.

**1** Insert a blank tape into deck B.

**2** Press FUNCTION repeatedly until the source you want to record (e.g., CD) appears.

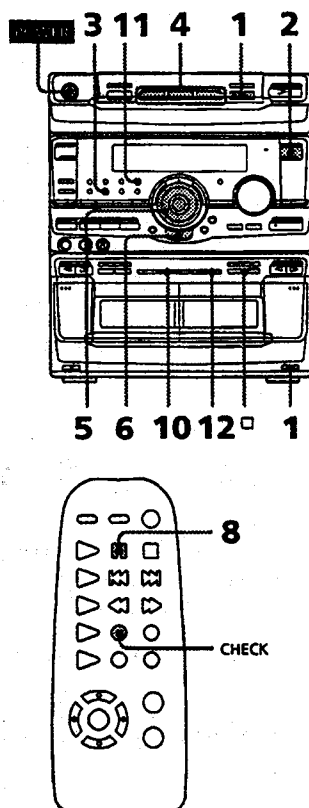
**3** Press ●.  
Deck B stands by for recording. ▷ (for front side) lights up.

**4** Press DIRECTION repeatedly to select = to record on one side. Select □ (or RELAY) to record on both sides.

## Recording a CD by specifying track order

### — Program Edit

You can record tracks from all the CDs in the order you want. When programming, make sure the playing times for each side do not exceed the length of one side of the tape.



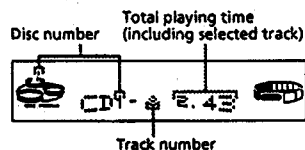
**1** Place a CD and insert a blank tape into deck B.

**2** Press FUNCTION repeatedly until "CD" appears in the display.

**3** Press PLAY MODE repeatedly until "PROGRAM" appears in the display.

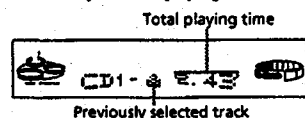
**4** Press one of the DISC 1-3 buttons to select a CD.

**5** Turn the jog dial until the desired track appears in the display.



**6** Press ENTER/NEXT.

The track is programmed. "STEP" and the programmed playing order appear, followed by the total playing time.



**7** To program additional tracks to be recorded on side A, repeat steps 4 to 6.  
Skip step 4 to select tracks from the same disc.

**8** Press 00 on the remote to insert a pause at the end of side A. "P" appears in the display and the total playing time resets to "0.00" in the display.

**9** Repeat steps 5 and 6 for tracks from the same disc or steps 4 to 6 for tracks from another disc to program the remaining tracks to be recorded on side B.

**10** Press CD SYNCHRO.

Deck B stands by for recording and the CD player stands by for playback. ▷ (for front side) lights up.

**11** Press DIRECTION repeatedly to select = to record on one side. Select < (or RELAY) to record on both sides.

**12** Press 00 on deck B.  
Recording starts.

### To stop recording

Press □ on the deck B or on the CD player.

### To check the order

Press CHECK on the remote repeatedly. After the last track, "CHECK END" appears.

### To cancel Program Edit

Press PLAY MODE repeatedly until "PROGRAM" or "SHUFFLE" disappears from the display.

## Selecting tape length automatically

### — Tape Select Edit

You can check the most suitable tape length for recording a CD. Note that you cannot use Tape Select Edit for discs containing more than 20 tracks.

➔ After inserting a CD, press EDIT once, so that "EDIT" flashes.

The required tape length for the currently selected CD appears, followed by the total playing time and tracks for side A and side B.

### Note

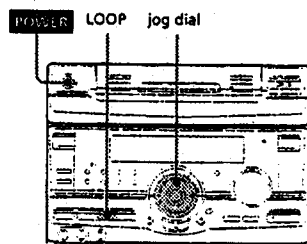
You cannot use this function after programming. In order to use this function, you must first erase the program (see "To clear the entire program" on page 22).

## DJ Effects

### Looping part of a CD

#### — Loop

With the loop function, you can repeat part of a CD during playback. This lets you create original recordings.



→ Press and hold LOOP during playback at the point you want to start the Loop function, and release to resume normal play.

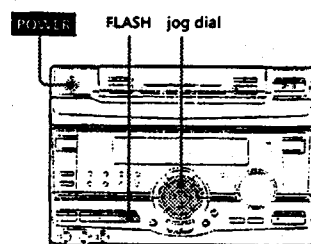
#### To adjust the loop length

Turn the jog dial while holding LOOP (or press MUSIC MENU  $\blacktriangle$  or  $\blacktriangledown$  while holding LOOP\* on the remote) to select different loop lengths (LOOP 1–20).

### Flashing part of a CD

#### — Flash

With the flash function, you can “flash” the CD sound during playback. This lets you create original recordings.



→ Press and hold FLASH during playback at the point you want to start the Flash function, and release to resume normal play.

#### To adjust the flash length

Turn the jog dial while holding FLASH (or press MUSIC MENU  $\blacktriangle$  or  $\blacktriangledown$  while holding FLASH on the remote) to select different flash lengths (FLASH 1–20).

#### To use LOOP and FLASH together

Press and hold both LOOP and FLASH at the same time.

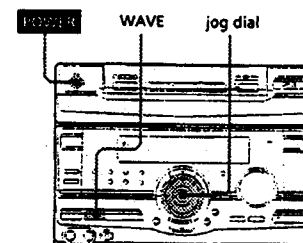
#### Notes

- The loop and flash length cannot be adjusted during this operation. Adjust the loop and flash lengths independently beforehand if necessary.
- To record the flash effect, use the analog (VIDEO/MD OUT) connections or this unit's tape deck.

### Waving the equalizer

#### — Wave

With the Wave function, you can fluctuate the graphic equalizer automatically. This effect can be used with any source, but it cannot be recorded.



→ Press and hold WAVE to start the Wave function, and release to resume normal listening.

#### To adjust the wave length

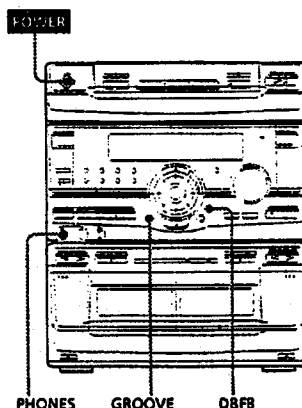
Turn the jog dial while holding WAVE to select a different wave length (WAVE 1–10).



## Sound Adjustment

### Adjusting the sound

You can reinforce the bass, create a more powerful sound, and listen with headphones.



#### To reinforce bass (DBFB)

Press DBFB\*.

Every time you press the button, the display changes as follows:

DBFB → DBFB → display off

"DBFB " is more effective than "DBFB ".

\* DBFB = Dynamic Bass Feedback

#### For a powerful sound (GROOVE)

Press GROOVE. The volume switches to power mode, DBFB is automatically set to full strength, the equalizer curve changes, and the "GROOVE" button lights up. Press GROOVE again to return to the previous volume.

#### Notes

- With some songs, the music will sound distorted when you use the DBFB system with the graphic equalizer if the bass is too strong. Adjust the bass slowly while listening to music so that you can monitor the effect of the adjustment.
- Cancelling GROOVE sets DBFB to "DBFB " and flattens the equalizer curve. To cancel the DBFB level, press DBFB until the indication disappears. Adjust the equalization to obtain the effect you desire.

#### To listen through the headphones

Connect the headphones to PHONES jack. No sound will come from the speakers.

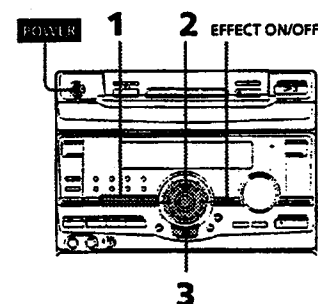
#### Note

If you have connected a super woofer, please note that sound comes from the super woofer even when the headphones are connected. Turn off the power of the super woofer when using headphones (except for MHC-D60).

## Selecting the audio emphasis

The audio emphasis menu lets you select the sound characteristic according to the sound you are listening to.

The personal file function (see "Making a personal audio emphasis file") lets you store your own effects.



**1** Press MUSIC, MOVIE, or GAME (or MUSIC MENU on the remote repeatedly) to select a menu.

See the chart "Music menu options" below. The last effect chosen from that menu appears in the display.

**2** Use the jog dial (or press MUSIC MENU on the remote repeatedly) to select the preset you desire.

The preset name appears in the display.

**3** Press ENTER/NEXT.

You don't need to press ENTER/NEXT when you use the remote.

#### To cancel the effect

Press EFFECT ON/OFF repeatedly (or MUSIC MENU ON/OFF on the remote) so that "EFFECT OFF" appears in the display.

#### Music menu options

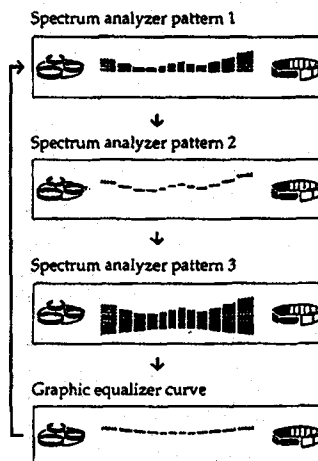
"SUR " appears if you select an effect with surround effects.

| MENU button | Effect    | For                                          |
|-------------|-----------|----------------------------------------------|
| MUSIC       | ROCK      | Standard music sources                       |
|             | POP       |                                              |
|             | JAZZ      |                                              |
|             | DANCE     |                                              |
|             | SOUL      |                                              |
| MOVIE       | ACTION    | Soundtracks and special listening situations |
|             | SF        |                                              |
|             | ROMANCE   |                                              |
|             | DRAMA     |                                              |
|             | SPORTS    |                                              |
| GAME        | SHOOTING  | Video games                                  |
|             | RACING    |                                              |
|             | RPG       |                                              |
|             | BATTLE    |                                              |
|             | ADVENTURE |                                              |

continued

### Selecting the audio emphasis (continued)

**To change the equalizer display**  
Each time you press DISPLAY/DEMO, the equalizer display changes to show one of the four displays below.



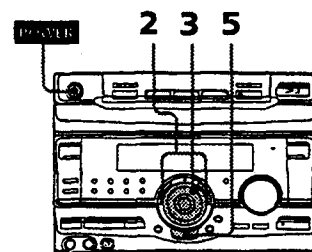
### Adjusting the audio emphasis

You can adjust the audio emphasis using the graphic equalizer and surround effect.

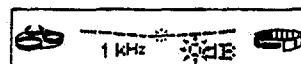
#### Adjusting the graphic equalizer

You can adjust the sound by raising or lowering the levels of specific frequency ranges.

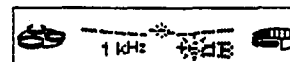
Before operation, first select the audio emphasis you want for your basic sound.



- 1** Select the audio emphasis you want for your basic sound (see "Selecting the audio emphasis").
- 2** Press HIGH FREQUENCY or LOW FREQUENCY repeatedly to select a frequency band.



- 3** Turn the jog dial to adjust level.



- 4** Repeat steps 2 and 3.

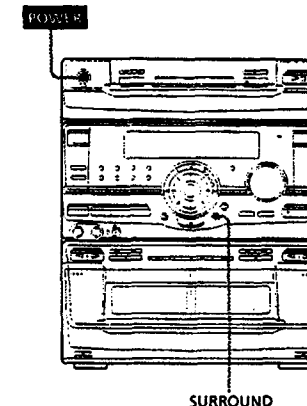
- 5** Press ENTER/NEXT when finished.

#### Note

If you choose another menu audio emphasis (other than "EFFECT OFF") the adjusted sound effect is lost. To retain the adjusted sound effect for future use, store it in a personal file. (See "Making a personal audio emphasis file".)

### Activating the surround effect

You can enjoy the surround effect.



➔ Press SURROUND repeatedly so that "SUR" appears in the display.

#### Note

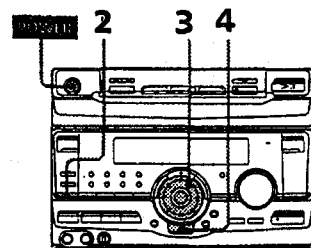
When you choose other sound effects, the surround effects will be canceled. If you want to memorize the effect, store it into a personal file (see "Making a personal audio emphasis file").

## Making a personal audio emphasis file

### — Personal file

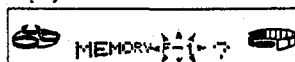
You can create a personal file of audio patterns (surround effect and graphic equalizer) and store them in the memory of the unit. Later call up an audio pattern to play a favorite tape, CD, or radio program. Create up to five audio files.

Before operation, first select the audio emphasis you want for your basic sound.



**1** Obtain the sound effect you want by using the graphic equalizer and surround effect.

**2** Press P FILE MEMORY.  
The personal file number appears in the display.



**3** Use the jog dial to select the file number (P FILE) where you want to store the sound effect.

**4** Press ENTER/NEXT.  
The adjusted sound effects are stored under the selected file number. The settings previously stored at this memory location are erased and replaced by the new settings.

### To call up the personal file

**1** Press P FILE (or MUSIC MENU  $\blacktriangle/\blacktriangledown$  on the remote repeatedly) to display the last selected personal file.

**2** Use the jog dial (or press MUSIC MENU  $\blacktriangle/\blacktriangledown$  on the remote repeatedly) to select the personal file you desire.

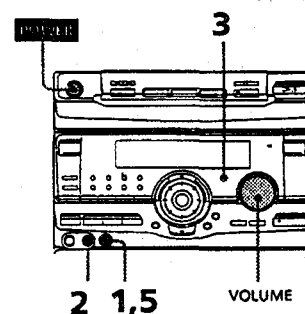
**3** Press ENTER/NEXT.

You don't need to press ENTER/NEXT when you use the remote.

## Other Features

### Singing along: Karaoke

You can sing along with any stereo CD or tape by turning down the singer's voice. You need to connect an optional microphone.



**1** Turn MIC LEVEL to MIN to turn down the microphone control level.

**2** Connect an optional microphone to MIX MIC.

**3** Press KARAOKE PON/MPX repeatedly to obtain the karaoke effect you desire.

Every time you press the button, the display changes as follows:

KARAOKE PON  $\rightarrow$  MPX R  $\rightarrow$  MPX L

$\leftarrow$  EFFECT OFF  $\leftarrow$

The  $\backslash$  indicator appears in the display when a karaoke mode is activated.

To sing karaoke with decreasing the vocal level of a CD, select KARAOKE PON. To sing karaoke of multiplex CD or tape, select MPX R or MPX L.

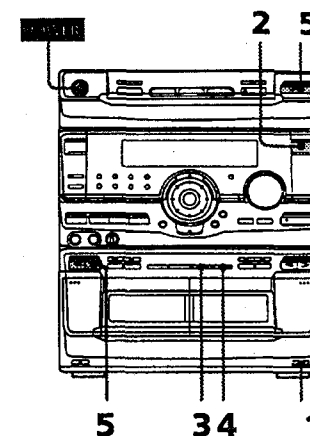
**4** Start playing the music and adjust the volume.

**5** Adjust the microphone volume by turning MIC LEVEL.

### When you are done

Turn MIC LEVEL to MIN and disconnect the microphone from MIX MIC, then press KARAOKE PON/MPX repeatedly so that  $\backslash$  disappears.

### Mixing and recording sounds



**1** Do the above steps 1 to 5. Then, insert a tape in deck B.

**2** Press FUNCTION repeatedly to select the source you desire and set it to pause mode.

continued

### Singing along: Karaoke (continued)

- 3 Press ●.
- 4 Press 00.
- 5 Press ► to start playing the CD player (or tape deck A). Playback starts. Start singing along with the music.

#### To stop recording

Press ■ on deck B and the CD player.

#### Tips

- If acoustic feedback (howling) occurs, move the microphone away from the speakers or change the direction of the microphone.
- If you want to record your voice through the microphone only, you can do so by selecting the CD function and not playing a CD.

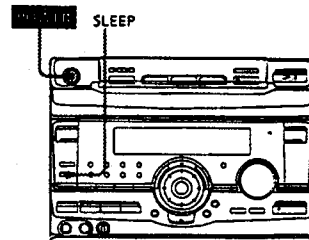
#### Notes

- If you press EFFECT ON/OFF or recall a sound effect, the karaoke mode is cancelled.
- The instrumental sound may be reduced as well as the singer's voice when the sound is recorded in monaural.
- The singer's voice may not be reduced when:
  - only a few instruments are playing
  - a duet is being played
  - the source has strong echoes or chorus
  - the singer's voice deviates from the center.
  - the voice on the source is singing in high soprano or tenor.

### Falling asleep to music

#### — Sleep Timer

You can let the system turn off at the preset time, so you can sleep to the music. You can preset the time to be turned off by 10 minutes.



#### → Press SLEEP.

Every time you press the button, the minute display (the turn-off time) changes as follows:

AUTO → 90min → 80min → 70min  
→ ... → 10min → OFF → AUTO ...

#### When you choose auto

The power turns off when the current CD or tape finishes playback (for up to 100 minutes).

#### To check the remaining time

Press SLEEP once.

#### To change the time to turn off

Select the time you want by pressing SLEEP.

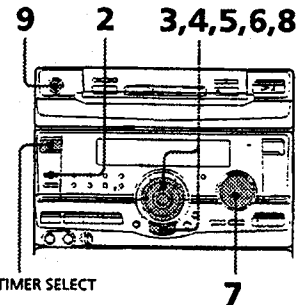
#### To cancel the Sleep Timer function

Press SLEEP repeatedly until "OFF" appears.

### Waking up to music

#### — Wake-up Timer

You can wake up to music at a preset time every day. Make sure you have set the clock (see "Step 2: Setting the time").



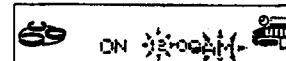
TIMER SELECT

#### 1 Prepare the music source you want to play.

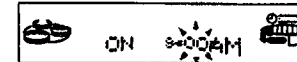
- CD: Insert a CD. To start from a specific track, make a program (see "Programming the CD tracks").
- Tape: Insert a tape with the side you want to play facing forward.
- Radio: Tune in the preset station you want (see "Step 3: Presetting radio stations").

#### 2 Press CLOCK TIMER SET. "SET (DAILY 1)" appears.

#### 3 Turn jog dial to select DAILY 1 or 2, then press ENTER/NEXT. "ON" appears and the hour digits flash in the display.



- 4 Set the time to start playback. Turn jog dial to set the hour, then press ENTER/NEXT. The minute indication starts flashing.



Turn jog dial to set the minute, then press ENTER/NEXT. The hour indication flashes again.

- 5 Set the time to stop playback following the above procedure.

- 6 Turn jog dial until the music source you want appears. The indications change as follows: TUNER → CD PLAY → TAPE PLAY

- 7 Adjust the volume.

- 8 Press ENTER/NEXT. The start time, followed by the stop time and the music source, appears, then the original display appears.

- 9 Turn off the power.

continued

### Waking up to music (continued)

#### To check the setting

Press **TIMER SELECT** and turn the jog dial to select the respective mode (**DAILY 1** or **DAILY 2**), then press **ENTER/NEXT**. To change the setting, start over from step 1.

#### To cancel the timer operation

Press **TIMER SELECT** and turn the jog dial to select **"OFF"**, then press **ENTER/NEXT**.

#### Tip

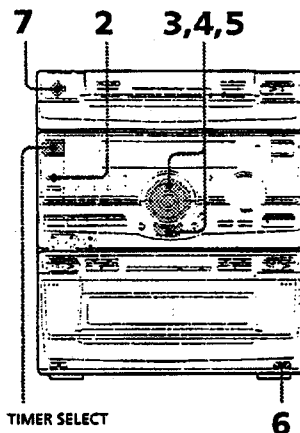
The power turns on 15 seconds before the preset time.

#### Note

When setting the wake-up timer, set the equalizer display to anything other than Spectrum analyzer pattern 3. (See "To change the equalizer display" on page 30.)

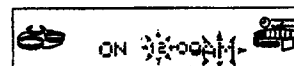
## Timer-recording radio programs

To timer-record, you must preset the radio station (see "Step 3: Presetting radio stations") and set the clock (see "Step 2: Setting the time") beforehand.

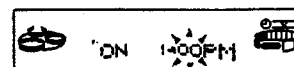


- 1** Tune in the preset radio station (see "Listening to the radio").
- 2** Press **CLOCK TIMER SET**.  
"SET (DAILY 1)" appears.

- 3** Turn jog dial to select **REC**, then press **ENTER/NEXT**.  
"ON" appears and the hour digits flash in the display.



- 4** Set the time to start recording.  
Turn jog dial to set the hour, then press **ENTER/NEXT**.  
The minute indication starts flashing.



Turn jog dial to set the minute, then press **ENTER/NEXT**.  
The hour indication flashes again.

- 5** Set the time to stop recording following the above procedure.  
The start time appears, followed by the stop time, the recording source and the radio station, then the original display appears.

- 6** Insert a recordable tape.

- 7** Turn off the power.  
When the recording starts, the volume level is set to the minimum.

#### To check the setting

Press **TIMER SELECT** and turn the jog dial to select **"REC"**, then press **ENTER/NEXT**. To change the setting, start over from step 1.

#### To cancel the timer operation

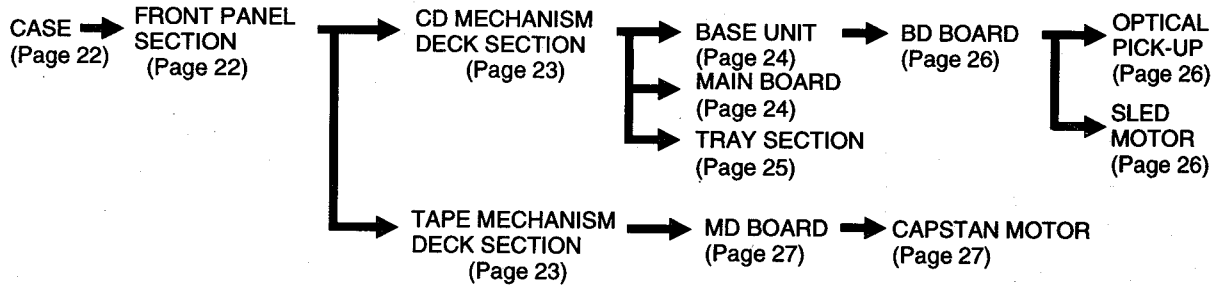
Press **TIMER SELECT** and turn the jog dial to select **"OFF"**, then press **ENTER/NEXT**.

#### Notes

- When setting the timer-recording, set the equalizer display to anything other than Spectrum analyzer pattern 3. (See "To change the equalizer display" on page 30.)
- If the power is on at the preset time, the recording will not be made.

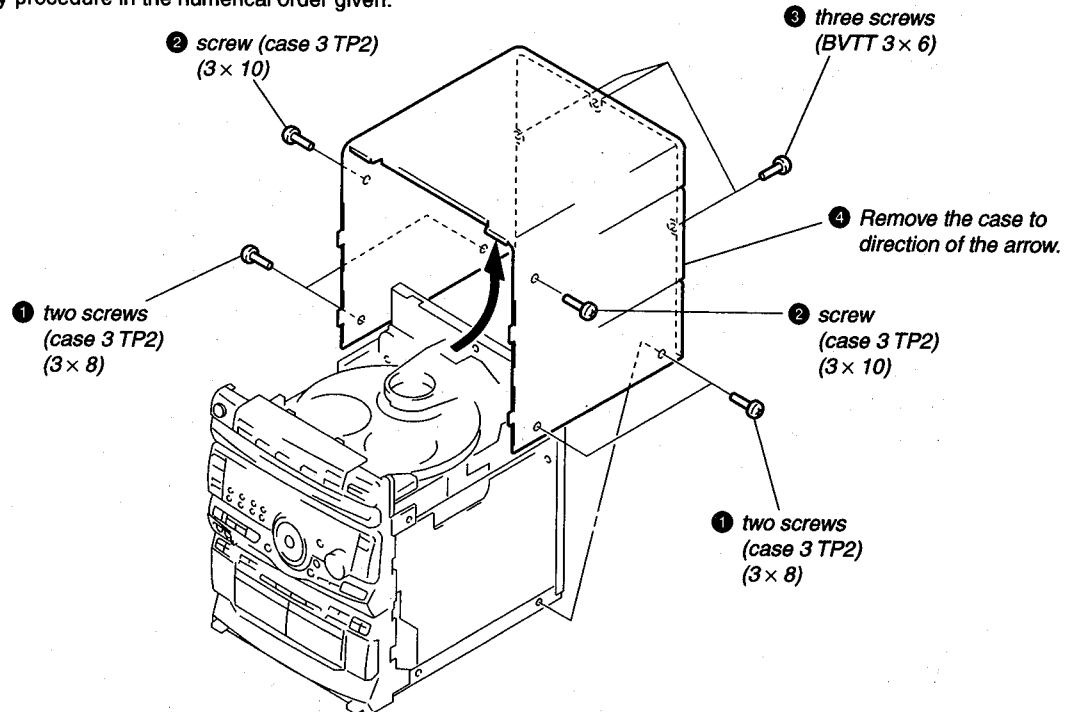
## SECTION 2 DISASSEMBLY

• This set can be disassembled in the order shown below.

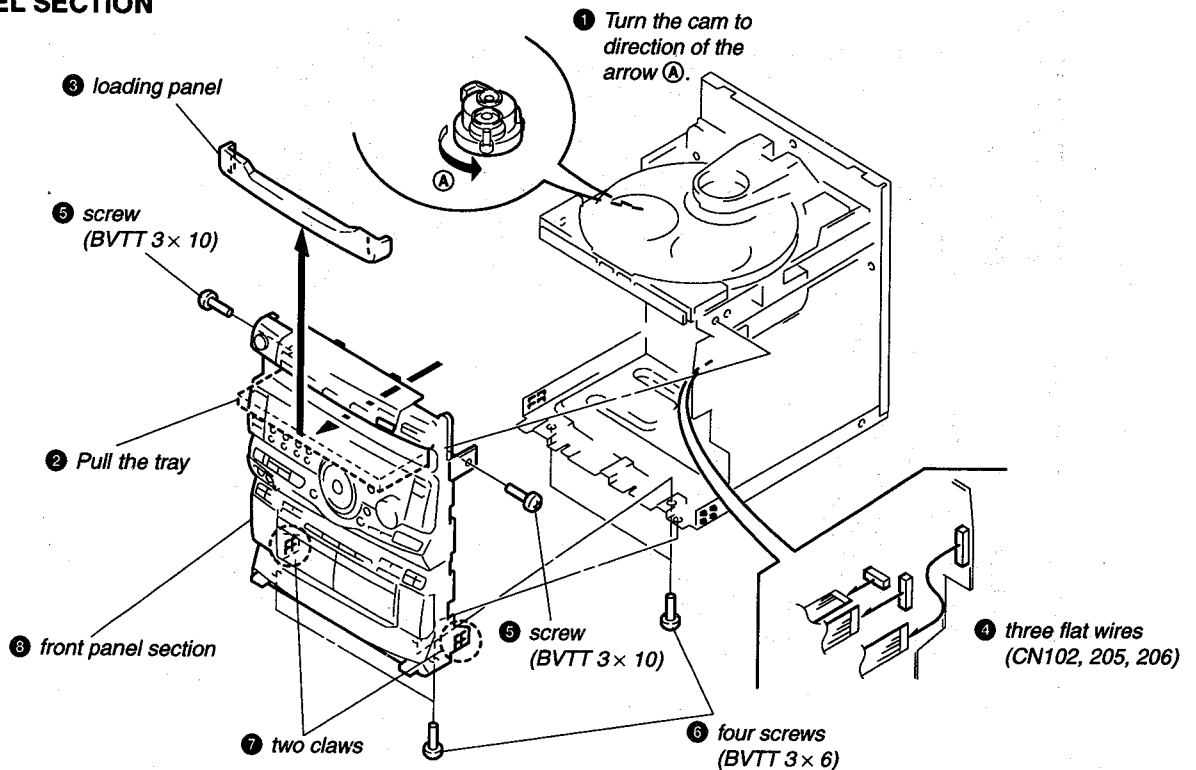


**Note:** Follow the disassembly procedure in the numerical order given.

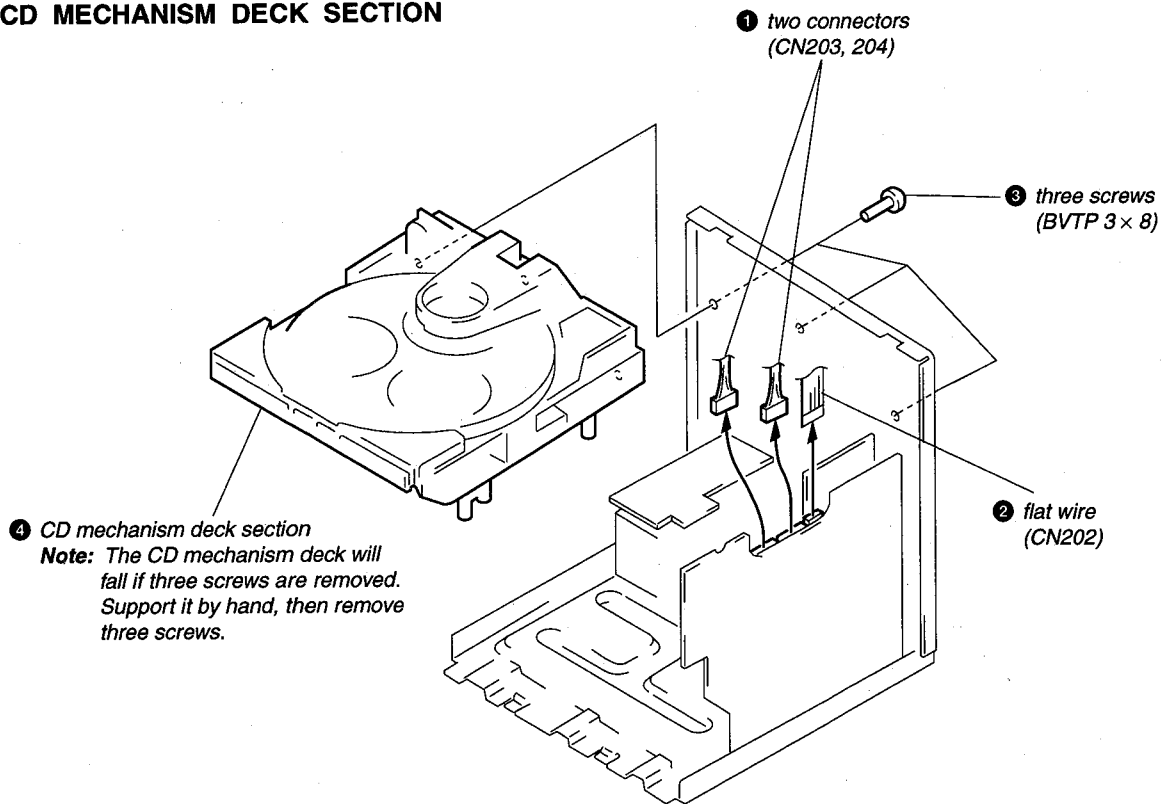
### CASE



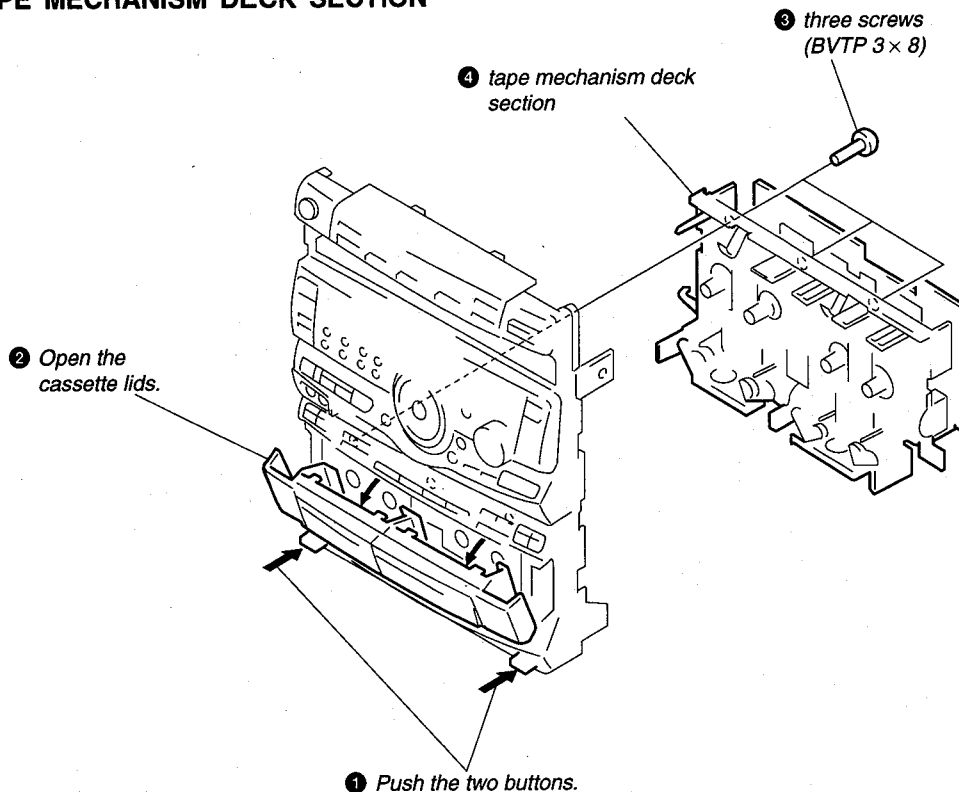
### FRONT PANEL SECTION



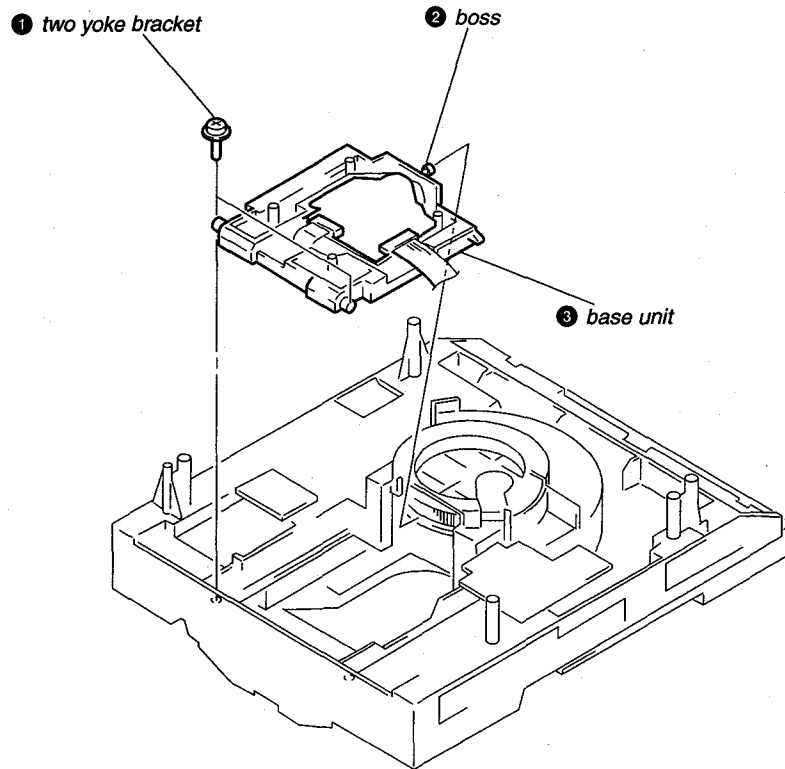
## CD MECHANISM DECK SECTION



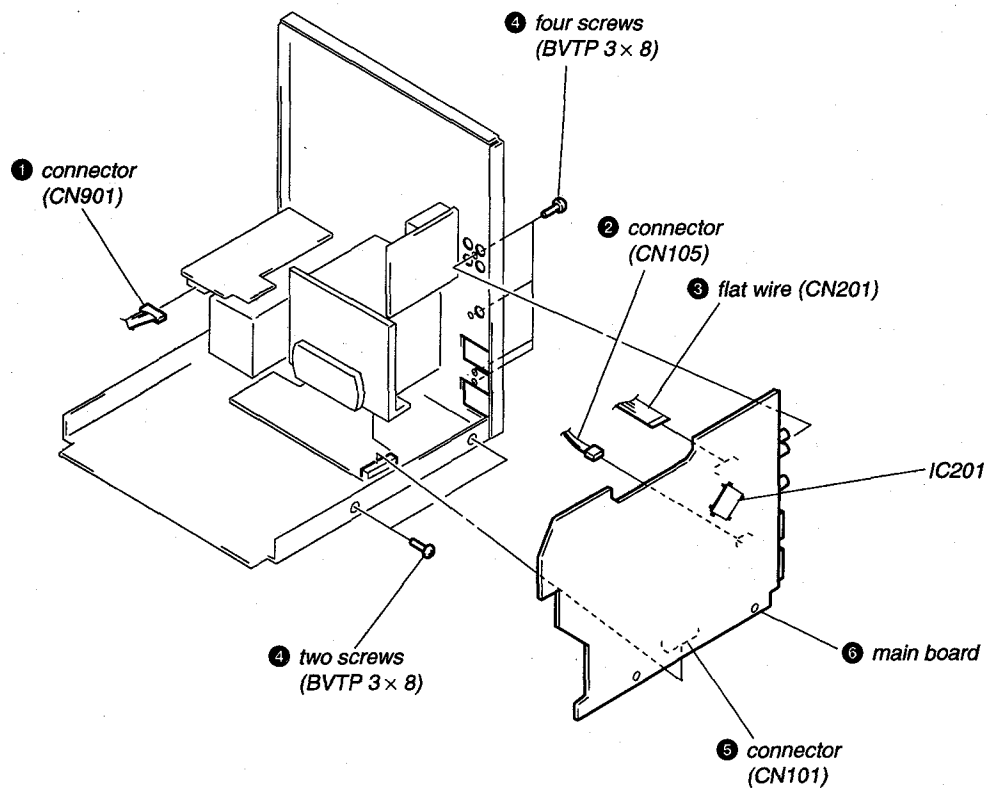
## TAPE MECHANISM DECK SECTION



## BASE UNIT

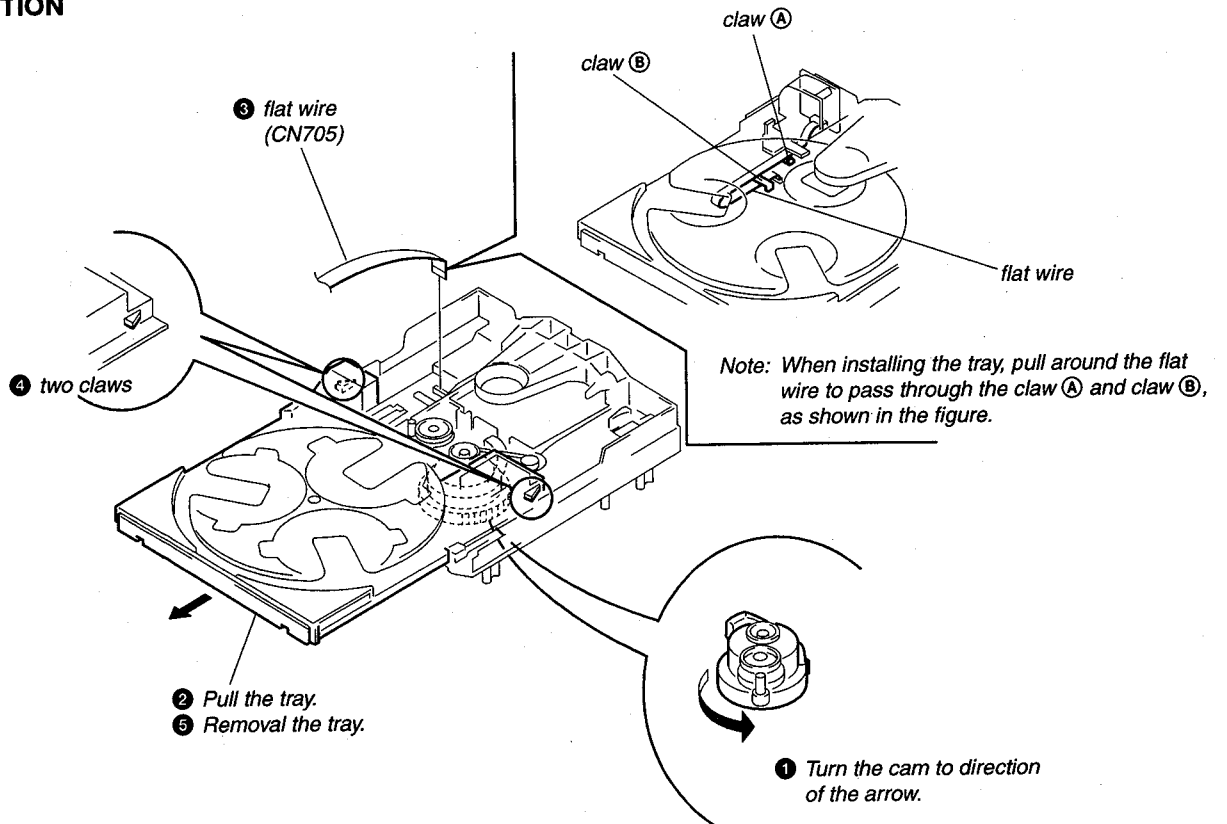


## MAIN BOARD

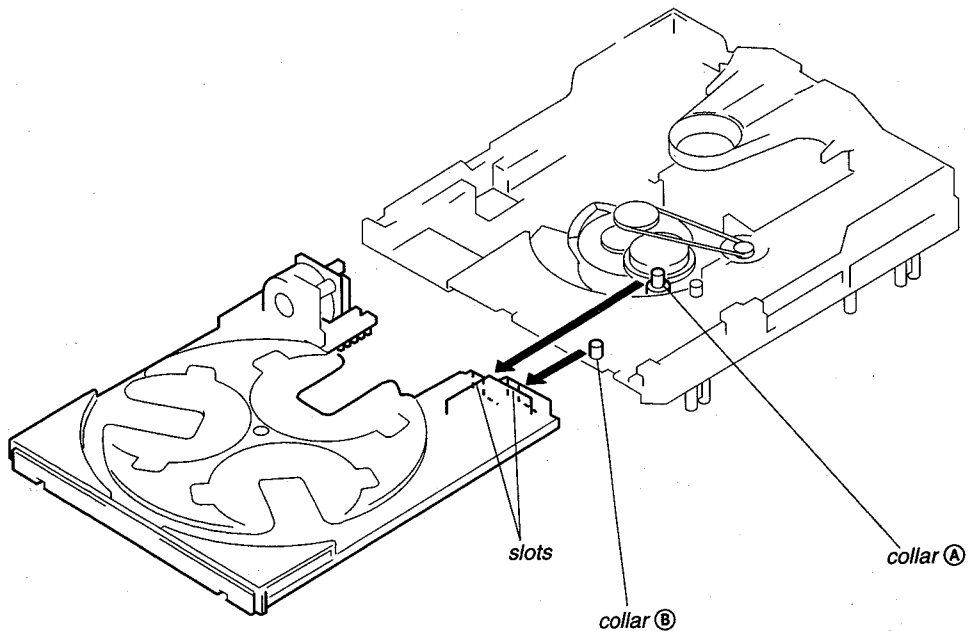




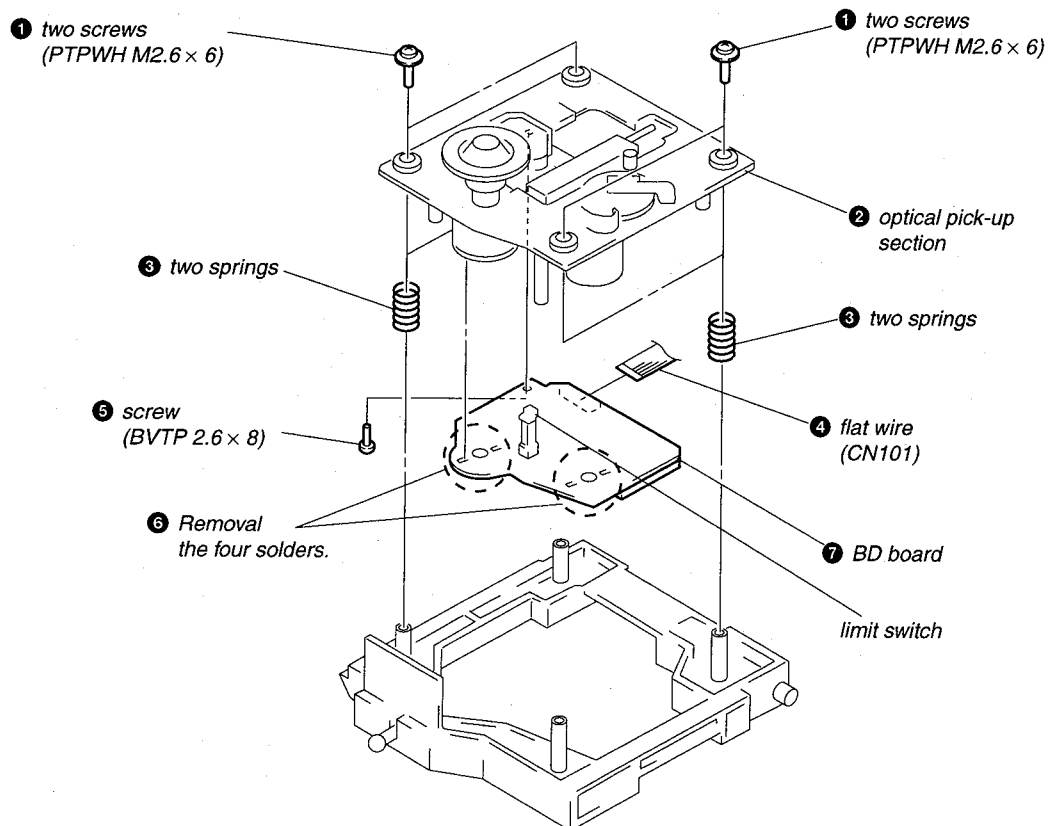
## TRAY SECTION



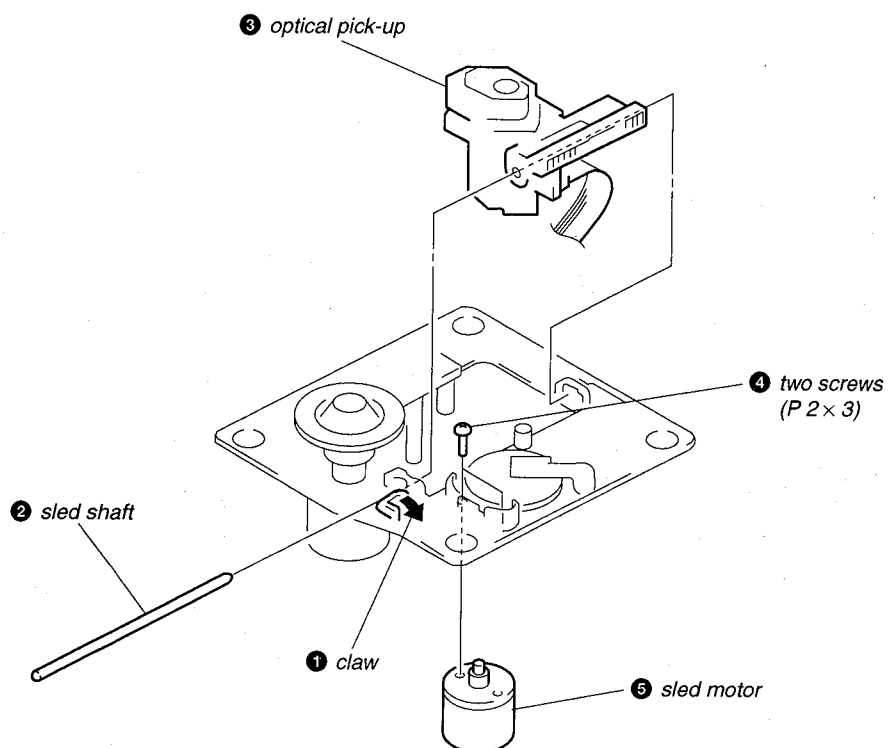
Note: When installing the tray, take care so that the collars (A) and (B) are properly inserted into the slots.



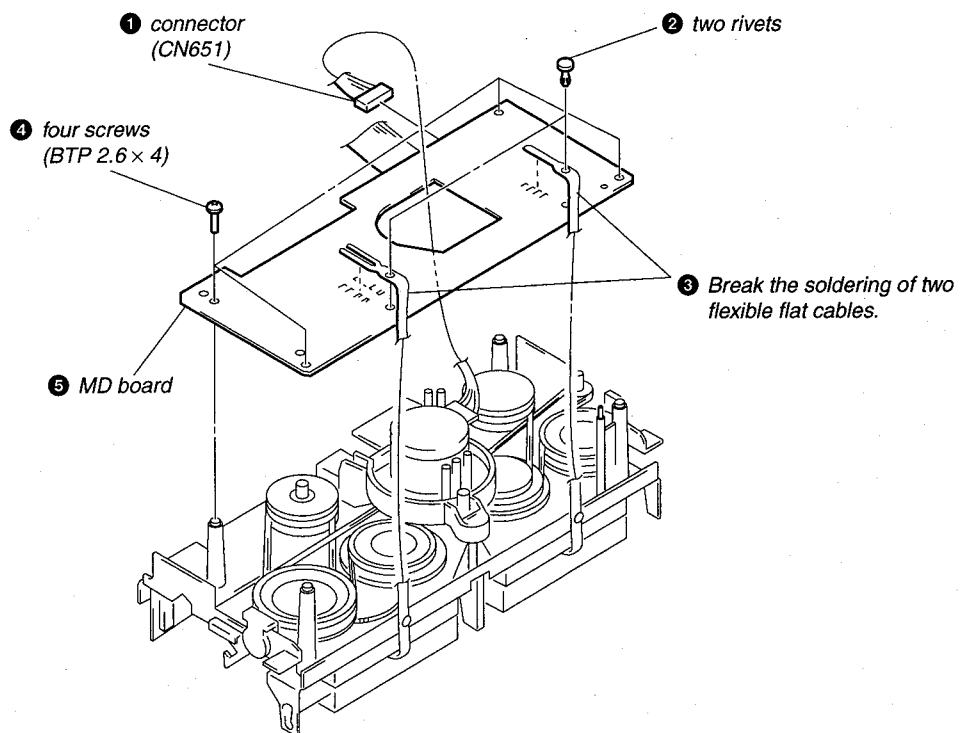
## BD BOARD



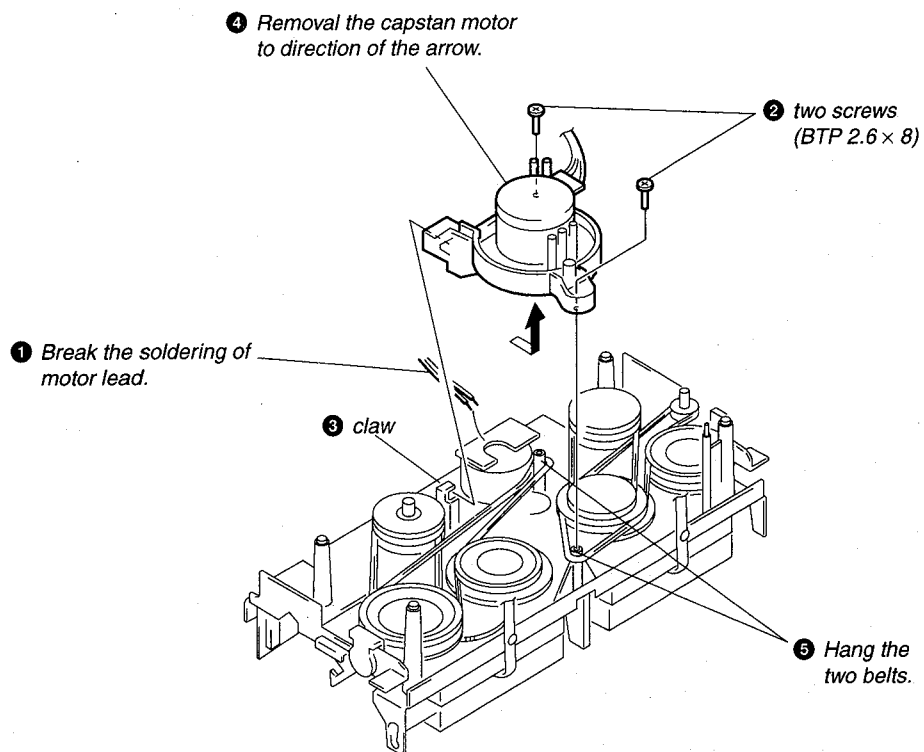
## OPTICAL PICK-UP, SLED MOTOR



## MD BOARD



## CAPSTAN MOTOR



## SECTION 3 TEST MODE

### [MC Cold Reset]

- The cold reset clears all data including preset data stored in the RAM to initial conditions. Execute this mode when returning the set to the customer.

#### Procedure:

1. Press three buttons **SPECTRUM ANALYZER**, **ENTER/NEXT**, and **DISC 1** simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

### [CD Delivery Mode]

- This mode moves the pickup to the position durable to vibration. Use this mode when returning the set to the customer after repair.

#### Procedure:

1. Press **POWER** button to turn the set ON.
2. Press **PLAY** button and **POWER** button simultaneously.
3. A message "LOCK" is displayed on the fluorescent indicator tube, and the CD delivery mode is set.

### [MC Hot Reset]

- This mode resets the set with the preset data kept stored in the memory. The hot reset mode functions same as if the power cord is plugged in and out.

#### Procedure:

1. Press three buttons **SPECTRUM ANALYZER**, **ENTER/NEXT**, and **DISC 2** simultaneously.
2. The fluorescent indicator tube becomes blank instantaneously, and the set is reset.

### [Sled Servo Mode]

- This mode can run the CD sled motor freely. Use this mode, for instance, when cleaning the pickup.

#### Procedure:

1. Select the function "CD".
2. Press three buttons **SPECTRUM ANALYZER**, **ENTER/NEXT**, and **FUNCTION** simultaneously.
3. The Sled Servo mode is selected, if "CD" is blanking on the fluorescent indicator tube.
4. With the CD in stop status, press **▶▶** button in CD section to move the pickup to outside track, or **◀◀** button to inside track.
5. To exit from this mode, perform as follows:
  - 1) Move the pickup to the most inside track.
  - 2) Press three buttons in the same manner as step 2.

#### Note:

- Always move the pickup to most inside track when exiting from this mode. Otherwise, a disc will not be unloaded.
- Do not run the sled motor excessively, otherwise the gear can be chipped.

### [Change-over of FUNCTION Name]

- The FUNCTION name of external input terminal can be changed over to VIDEO or MD.

#### Procedure:

1. Press **POWER** button to turn the set OFF.
2. Press **POWER** button together with **FUNCTION** button, and the power is turned on, the display of fluorescent indicator tube changes to "MD" or "VIDEO" instantaneously, and thus the FUNCTION is changed over.

### [Change-over of AM Tuner Step between 9kHz and 10kHz]

- A step of AM channels can be changed over between 9kHz and 10kHz.

#### Procedure:

1. Press **POWER** button to turn the set ON.
2. Select the function "TUNER", and press **TUNER/BAND** button to select the BAND "AM".
3. Press **POWER** button to turn the set OFF.
4. Press **ENTER/NEXT** and **POWER** buttons simultaneously, and the display of fluorescent indicator tube changes to "AM 9k STEP" or "AM 10k STEP", and thus the channel step is changed over.

### [LED and Fluorescent Indicator Tube All Lit, Key Check Mode]

#### Procedure:

1. Press three buttons **SPECTRUM ANALYZER**, **ENTER/NEXT**, and **DISC 3** simultaneously.
2. LEDs and fluorescent indicator tube are all turned on. Press **DISC 2** button, and the key check mode is activated.
3. In the key check mode, the fluorescent indicator tube displays "K 1 V0 J0". Each time a button is pressed, "K" value increases. However, once a button is pressed, it is no longer taken into account.
  - "J" value increases like 1, 2, 3 ... if rotating **JOG** knob in "+" direction, or it decreases like 0, 9, 8 ... if rotating in "-" direction.
  - "V" value increases like 1, 2, 3 ... if rotating **VOLUME** knob in "+" direction, or it decreases like 0, 9, 8 ... if rotating in "-" direction.
4. To exit from this mode, press three buttons in the same manner as step 1, or disconnect the power cord.

## [Aging Mode]

This mode can be used for operation check of CD section and tape deck section.

- If an error occurred:  
The aging operation stops.
- If no error occurs:  
The aging operation continues repeatedly.

### 1. Aging Mode in CD Section

#### 1-1. Operating Method of Aging Mode

1. Set discs in DISC1 and DISC2 trays.
  2. Select the function "CD".
  3. Press three buttons **[SPECTRUM ANALYZER]**, **[ENTER/NEXT]**, and **[KARAOKE PON/MPX]** simultaneously.
  4. The aging mode is activated, if a roulette mark on the fluorescent indicator tube is blinking.
  5. In the aging mode, the aging is executed in a sequence given in "1-2. Operation during Aging Mode".  
The aging continues unless an alarm occurred.
  6. To exit from the aging mode, press **[POWER]** button to turn the set OFF.
- If a button other than buttons in CD section is pressed during aging, the aging in the CD section is finished.
  - To execute aging to the tape deck section successively, press **[>]** button in the deck A.  
"AGING" is displayed on the fluorescent indicator tube. (For the aging in tape deck, see "2. Aging Mode in Tape Deck Section".)

#### 1-2. Operation during aging Mode

In the aging mode, the program is executed in the following sequence.

1. The disc table is ejected.
2. The disc tray turns to select a disc. (For a disc selection sequence, see Section 1-3.)
3. TOC of disc is read.
4. The pickup accesses to the last track.
5. A disc is ejected.
6. Steps 2 through 5 are repeated.

#### 1-3. Disc Selection Sequence

- During the aging mode, discs are selected in the following sequence:

Disc 1 → Disc 2  
↑        ↓  
Disc 2 ← Disc 1

### 2. Aging Mode in Tape Deck Section

#### 2-1. Operating Method of Aging Mode

1. Load a commercially available 10-minute tape into the decks A and B respectively.  
(If a 10-minute tape is not available, another tape may be used but a cycle time will be longer.)
2. Select the function "TAPE".
3. Rewind tapes in advance by pressing **[◀◀]** button respectively on decks A and B.
4. Press three buttons **[SPECTRUM ANALYZER]**, **[ENTER/NEXT]**, and **[KARAOKE PON/MPX]** simultaneously.
5. Press **[>]** button on deck A. (This button triggers the aging mode.)
6. The aging mode is activated if "AGING A" is displayed on the fluorescent indicator tube.

7. In the aging mode, the aging is executed in a sequence given in "2-2. Operation during Aging Mode".  
The aging continues unless an alarm occurred.
8. To exit from the aging mode, press **[POWER]** button to turn the set OFF.

#### 2-2. Operation during Aging Mode

In the aging mode, the program is executed in the following sequence.

1. A tape on FWD side is played for one minute.
2. PAUSE STOP is made.
3. Recording is made for 3 minutes. (For the deck not having the record function, the play is executed. In this case, **[▶]** LED does not light up.)
4. FF is executed up to the end of tape.
5. A tape is reversed, and the tape on REV side is played for one minute.
6. PAUSE STOP is made.
7. Recording is made for 3 minutes. (For the deck not having the record function, the play is executed. In this case, **[◀]** LED does not light up.)
8. FF is executed up to the end of tape.
9. Steps 1 through 8 are executed for the other deck.
10. Steps 1 through 9 are repeated unless an alarm occurred.

#### 2-3. Deck Selection Sequence

- During the aging mode, decks are selected in the following sequence:

Deck A (FWD) → Deck A (REV)  
                  ↑                        ↓  
Deck B (REV) ← Deck B (FWD)

## SECTION 4 MECHANISM ADJUSTMENTS

### PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:
 

|                      |              |
|----------------------|--------------|
| record/playback head | pinch roller |
| erase head           | rubber belts |
| capstan              | idlers       |
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

### •Torque Measurement

| Mode                    | Torque Meter | Meter Reading                          |
|-------------------------|--------------|----------------------------------------|
| Forward                 | CQ-102C      | 36 to 61g·cm<br>(0.50 – 0.84 oz·inch)  |
| Forward<br>Back Tension | CQ-102C      | 2 to 6g·cm<br>(0.026 – 0.082 oz·inch)  |
| Reverse                 | CQ-102RC     | 36 to 61g·cm<br>(0.50 – 0.84 oz·inch)  |
| Reverse<br>Back Tension | CQ-102RC     | 2 to 6g·cm<br>(0.026 – 0.082 oz·inch)  |
| FF, REW                 | CQ-201B      | 61 to 143g·cm<br>(0.85 – 1.98 oz·inch) |

### •Tape Tension Measurement

| Mode    | Tension Meter | Meter Reading            |
|---------|---------------|--------------------------|
| Forward | CQ-403A       | more than 100g (3.53 oz) |
| Reverse | CQ-403R       | more than 100g (3.53 oz) |

## SECTION 5 ELECTRICAL ADJUSTMENTS

### DECK SECTION

0dB=0.775V

1. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjust.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-ch.
7. Switches and controls should be set as follows unless otherwise specified.
8. Set to test mode. (Press key switch same time **SPECTRUM ANALYZER** **ENTER/NEXT** and **EFFECT ON/OFF** button.)

### • Test Tape

| Tape     | Signal        | Used for              |
|----------|---------------|-----------------------|
| P-4-A100 | 10kHz, -10 dB | Azimuth Adjustment    |
| WS-48B   | 3kHz, 0dB     | Tape Speed Adjustment |
| P-4-L300 | 315Hz 0dB     | Level Adjustment      |

### Record/Playback Head Azimuth Adjustment

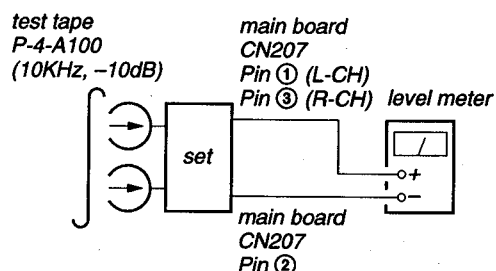
#### DECK A

#### DECK B

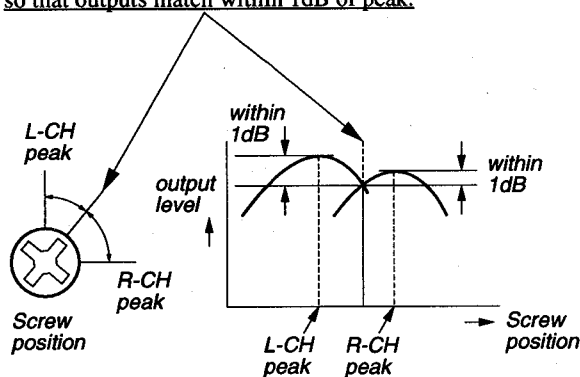
**Note:** Perform this adjustments for both decks

#### Procedure:

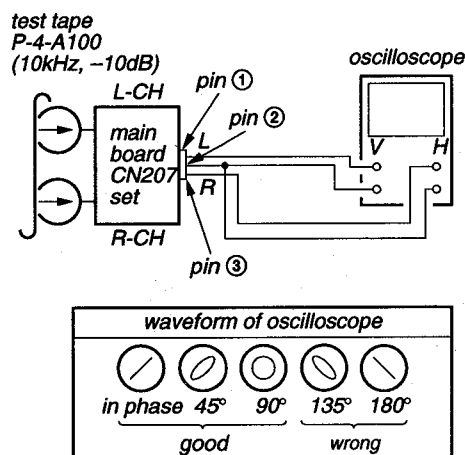
1. Mode: Playback (FWD)



- Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1dB of peak.

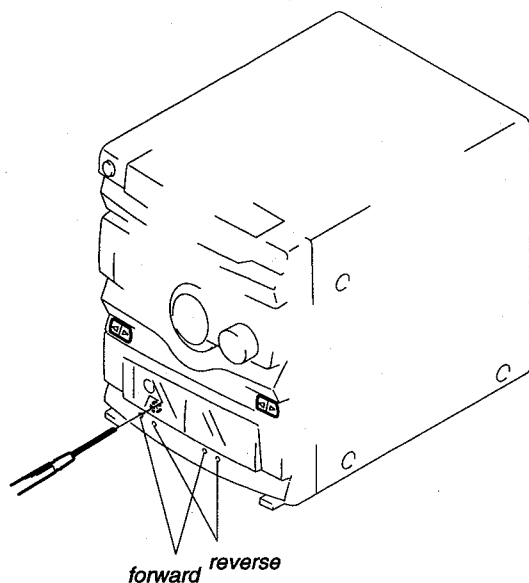


- Mode: Playback (FWD)



- Repeat steps 1 to 3 in playback (REV) mode.
- After the adjustments, apply suitable locking compound to the parts adjusted.

**Adjustment Location:** Record/Playback Head (Deck A and B) and main board.



## Tape Speed Adjustment **DECK A**

**Note:** Start the Tape Speed adjustment as below after setting to the test mode.

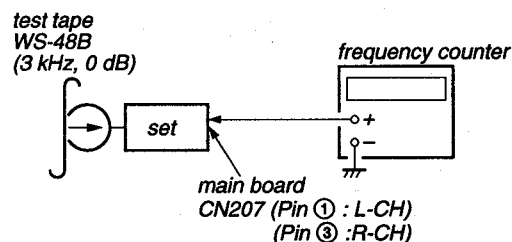
In the test mode, the tape speed is high during pressing the **HIGH SPEED DUBBING** button.

### Procedure:

- Turn the power switch on.
- Press the **SPECTRUM ANALYZER** button, **ENTER/NEXT** button and **EFFECT ON/OFF** button simultaneously.

To exit from the test mode, press the **POWER** button.

Mode: Playback (FWD)



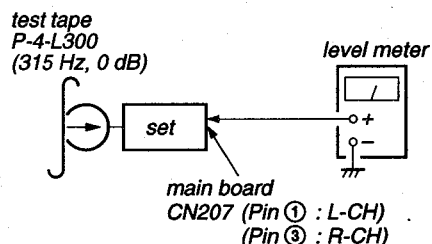
- Insert the WS-48B into the deck A and the blank tape into the deck B.
- Press the **REC** button and **▶** button on the deck B. Then the deck B is at recording mode.
- Set the deck A to playback mode.
- Keep pressing the **HIGH SPEED DUBBING** button in playback mode. Then at HIGH speed mode.
- Adjust RV652 on the AUDIO board so that frequency counter reads  $6,000 \pm 60$  Hz.
- Take off the **HIGH SPEED DUBBING** button. Then at NORMAL speed mode.
- Adjust RV651 on the AUDIO board so that frequency counter reads  $3,000 \pm 30$  Hz.
- Frequency difference between deck A and deck B the beginning of the tape should be within  $\pm 1.5\%$ .

**Adjustment Location:** AUDIO board

## Playback level Adjustment **DECK A** **DECK B**

### Procedure:

Mode: Playback (FWD)



Deck A is RV311 (L-CH) and RV411 (R-CH), Deck B is RV301 (L-CH) and RV401 (R-CH) so that adjustment within adjustment level as follows.

### Adjustment Level:

CN207 PB level: 301.5 to 338.3 mV (-8.2 to -7.2 dB) level difference between the channels: within  $\pm 0.5$  dB

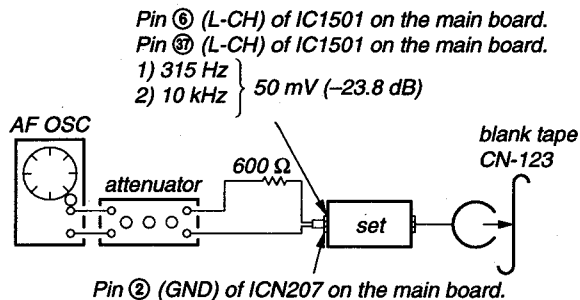
**Adjustment Location:** AUDIO and main boards

## Record bias Current Adjustment

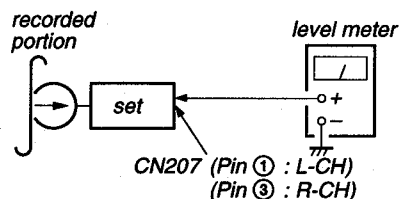
**DECK B**

### Procedure:

1. Mode: record



2. Mode: Playback



Confirm playback the signal recorded in step 1 become adjustable limits as follows.

If these levels do not adjustable limits, adjustment the RV341 (L-CH) and RV441 (R-CH) on the AUDIO board to repeat steps 1 and 2.

**Adjustable limits:** Playback output of 315 Hz to playback output of 10kHz:  $\pm 0.5$  dB

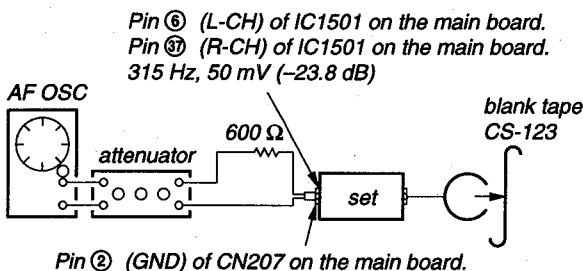
**Adjustment Location:** AUDIO and main boards

## Record Level Adjustment

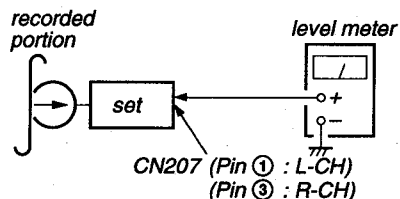
**DECK B**

### Procedure:

1. Mode: record



2. Mode: Playback



Confirm playback the signal recorded in step 1 become adjustable limits as follows.

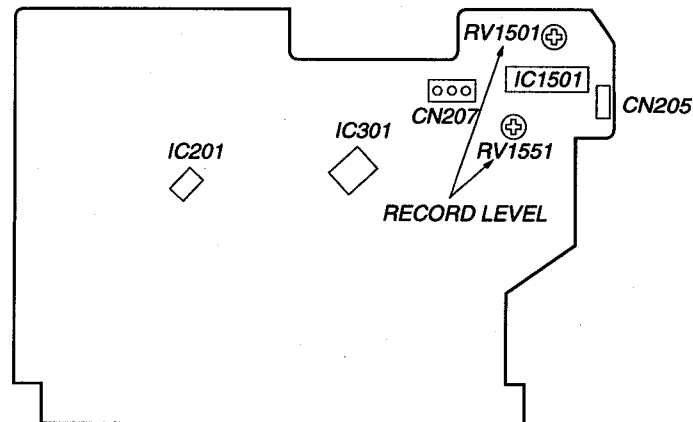
If these levels do not adjustable limits, adjustment the RV1501 (L-CH) and RV1551 (R-CH) on the main board to repeat steps 1 and 2.

### Adjustable limits:

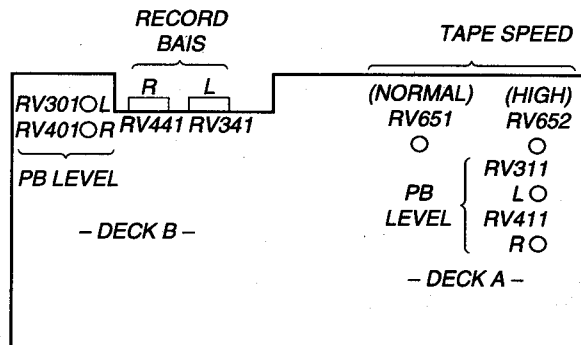
CN207 PB level: 47.3 to 53.1 mV (-24.3 to -23.3 dB)

**Adjustment Location:** main board

### [MAIN BOARD] (Component Side)



### [AUDIO BOARD] (Conductor Side)





## TUNER SECTION

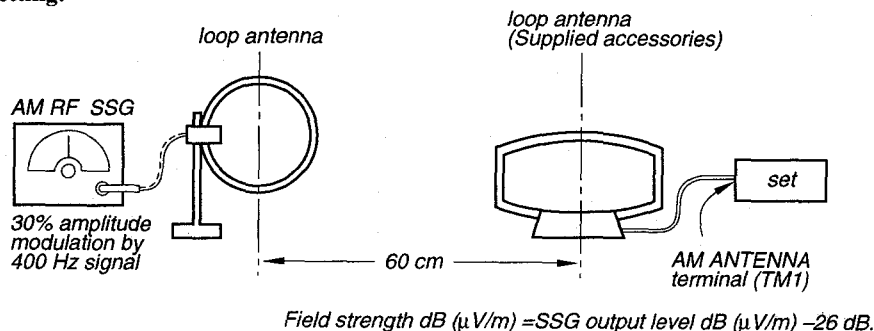
0dB=1μV

(HCD-RX70: AEP, German, UK model only)

**Note:** As a front-end (FE1) is difficult to repair if faulty, replace it with new one.

### AM Section Adjustment

**Setting:**



### AM Tuned Level Adjustment

Band: AM or MW

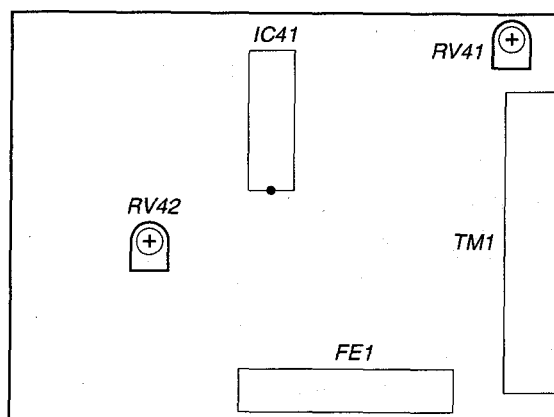
**Procedure:**

1. Set the output of SSG so that the input level of the set becomes 55 dB.
2. Tune the set to 999 kHz.
3. Adjust RV41 to the point (moment) when the TUNED indicator will change from going off to going on.

**Adjustment Location :** TCB board

**Adjustment Location:**

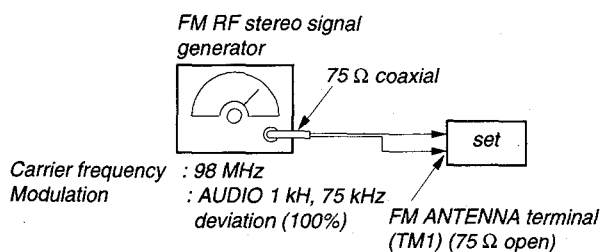
**[TCB BOARD]** (Component Side)



### FM Section Adjustment

**Note:** This adjustment should be performed after the AM Tuned Level Adjustment due to the same adjustment element.

**Setting:**



### FM Tuned Level Adjustment

Band: FM

**Procedure:**

1. Supply a 25dBμ 98 MHz signal from the ANTENNA terminal.
2. Tune the set to 98 MHz.
3. If the TUNED indicator does not light, adjust RV42 to the point (moment) when the TUNED indicator will change from going off to going on.

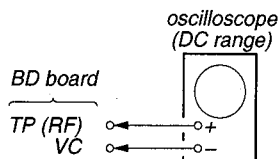
**Adjustment Location:** TCB board

## CD SECTION

### Note:

1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10M impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.
5. Adjust the focus bias adjustment when optical block is replaced.

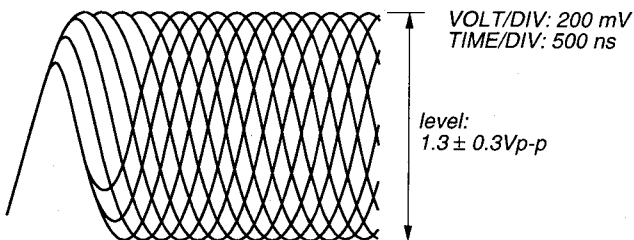
### Focus Bias check



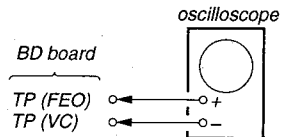
### Procedure:

1. Connect oscilloscope to test point TP (RF). (GND terminal : VC)
2. Turned Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that the shape "◇" can be clearly distinguished at the center of the waveform and check the RF signal level.

### • RF signal



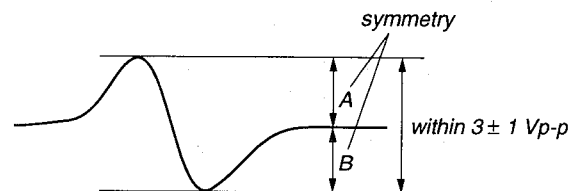
## S Curve Check



### Procedure:

1. Connect oscilloscope to test point TP (FEO).
2. Connect between test point TP (FEO) and GND by lead wire.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and turned Power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
5. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within  $3 \pm 1 V_{p-p}$ .

### S-curve waveform

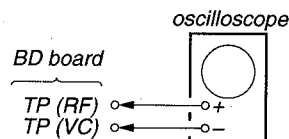


6. After check, remove the lead wire connected in step 2.

**Note:**

- Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as long as possible and light up the brightness to obtain best waveform.

## RF Level Check



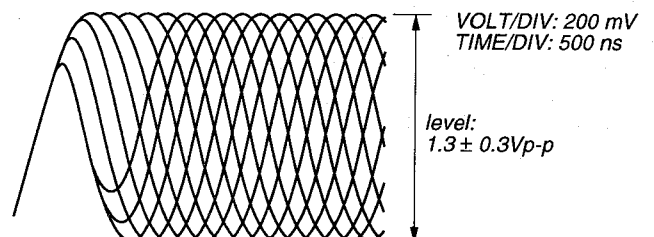
### Procedure:

1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

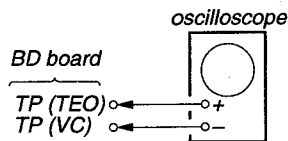
### Note:

Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

### • RF signal



**E-F Balance (1 Track Jump) check  
(Without remote commander)**



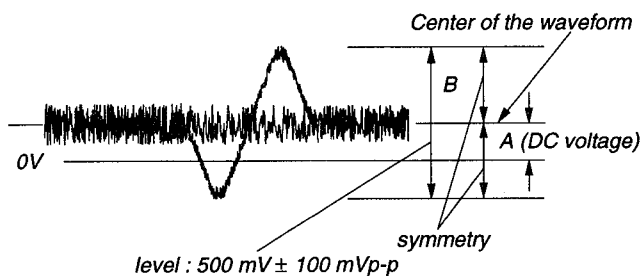
**Procedure:**

1. Connect oscilloscope to test point TP (TEO) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in to play the number five track.
4. Press the "||| (Pause)" button. (Becomes the 1 track jump mode)
5. Check the level B of the oscilloscope's waveform and the A (DC voltage) of the center of the Traverse waveform.

Confirm the following:

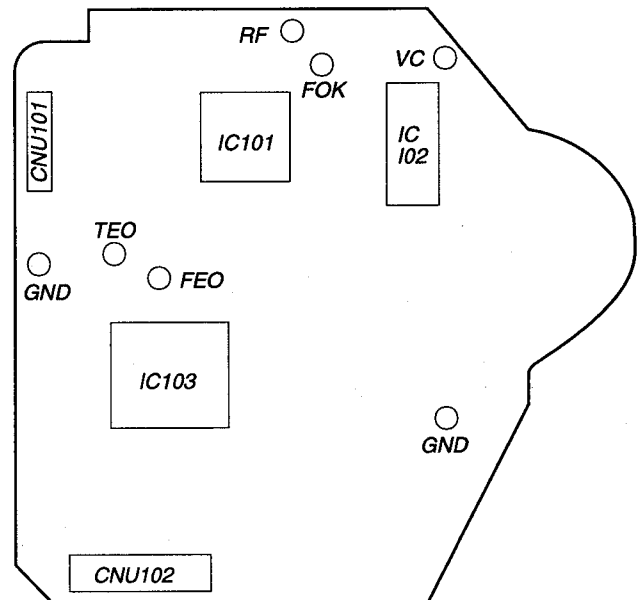
$$\frac{A - B}{2(A + B)} \times 100 = \pm 7 (\%)$$

1 track jump waveform



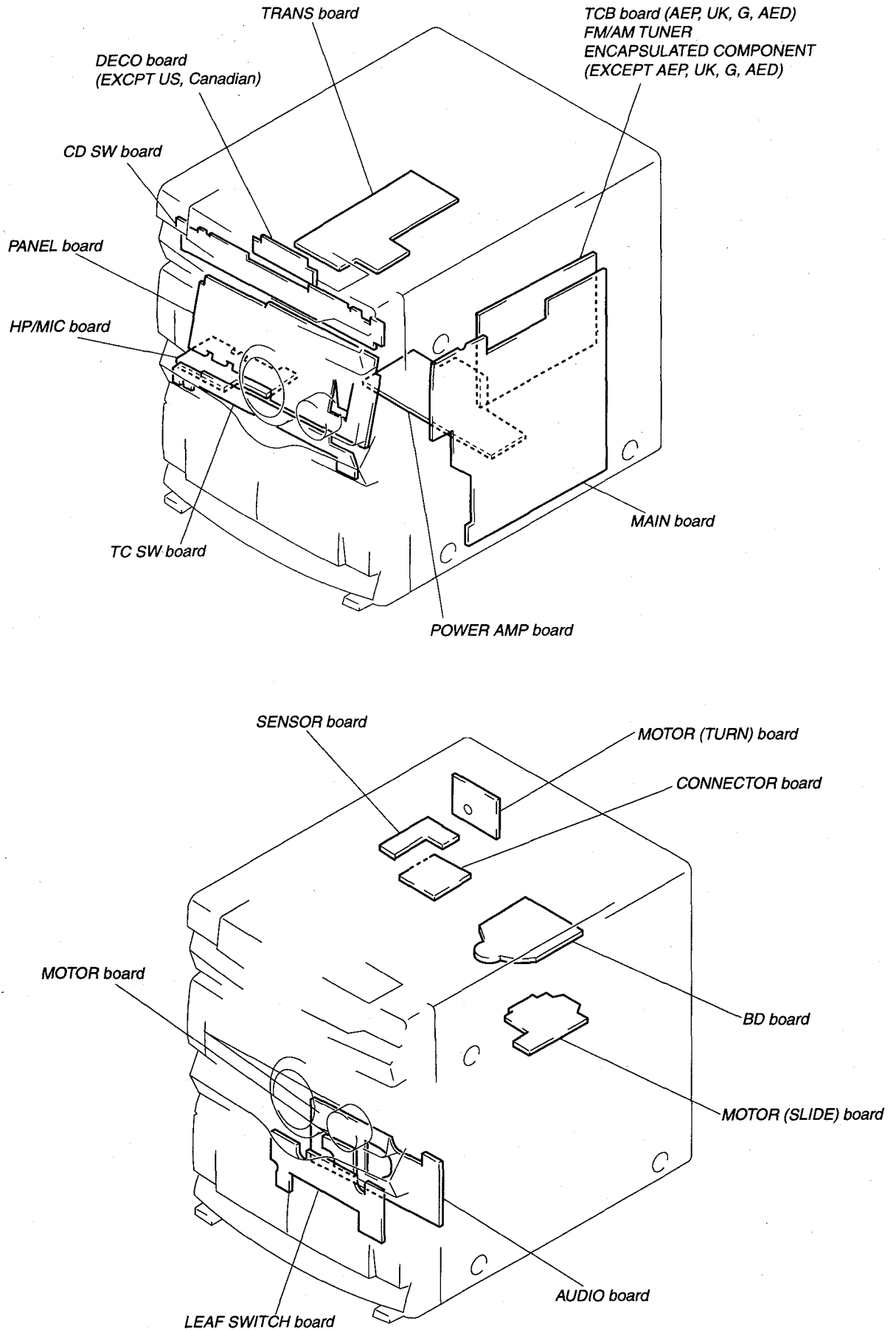
**Adjustment Location:**

**[BD BOARD] (Conductor Side)**

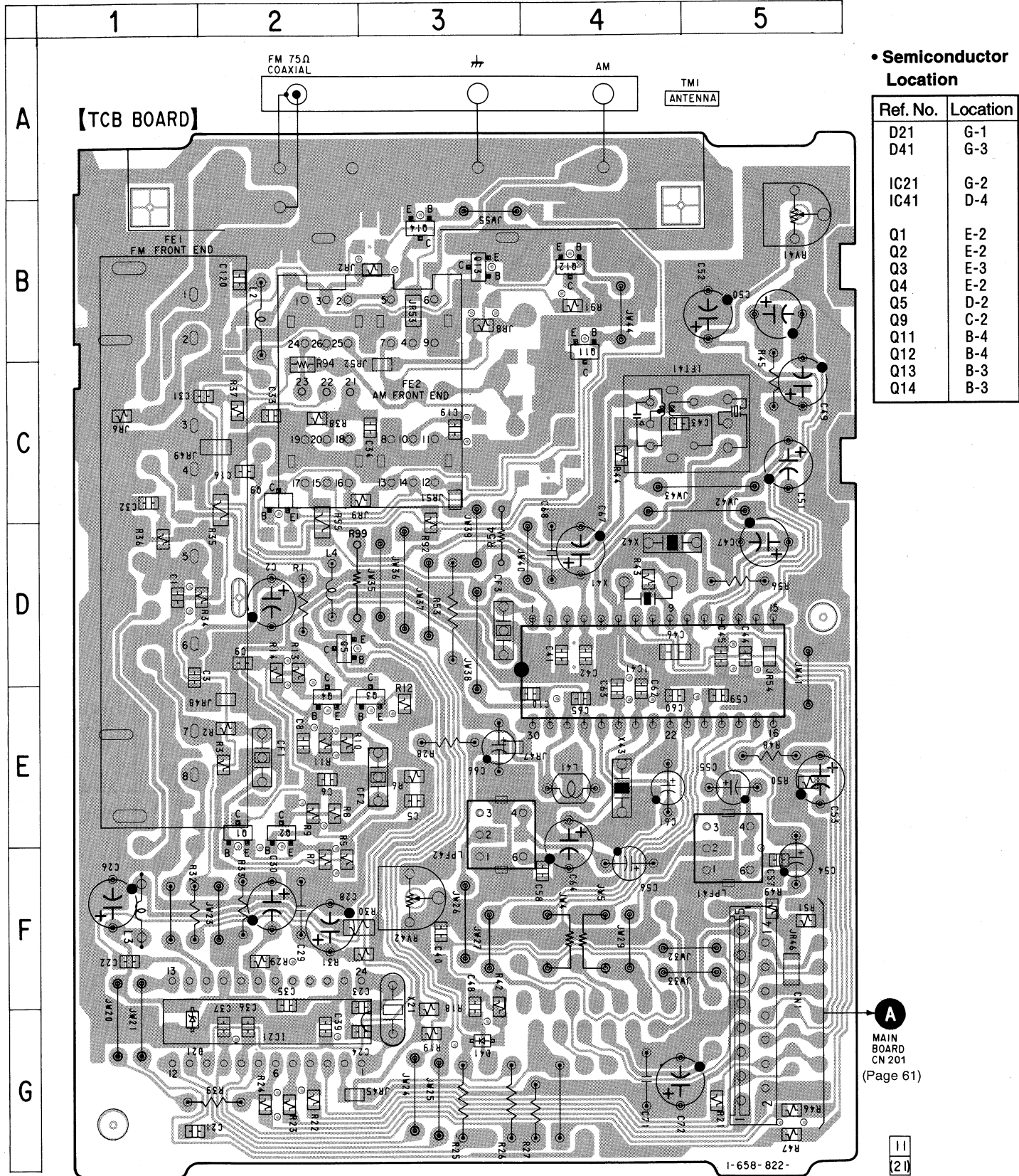


## SECTION 6 DIAGRAMS

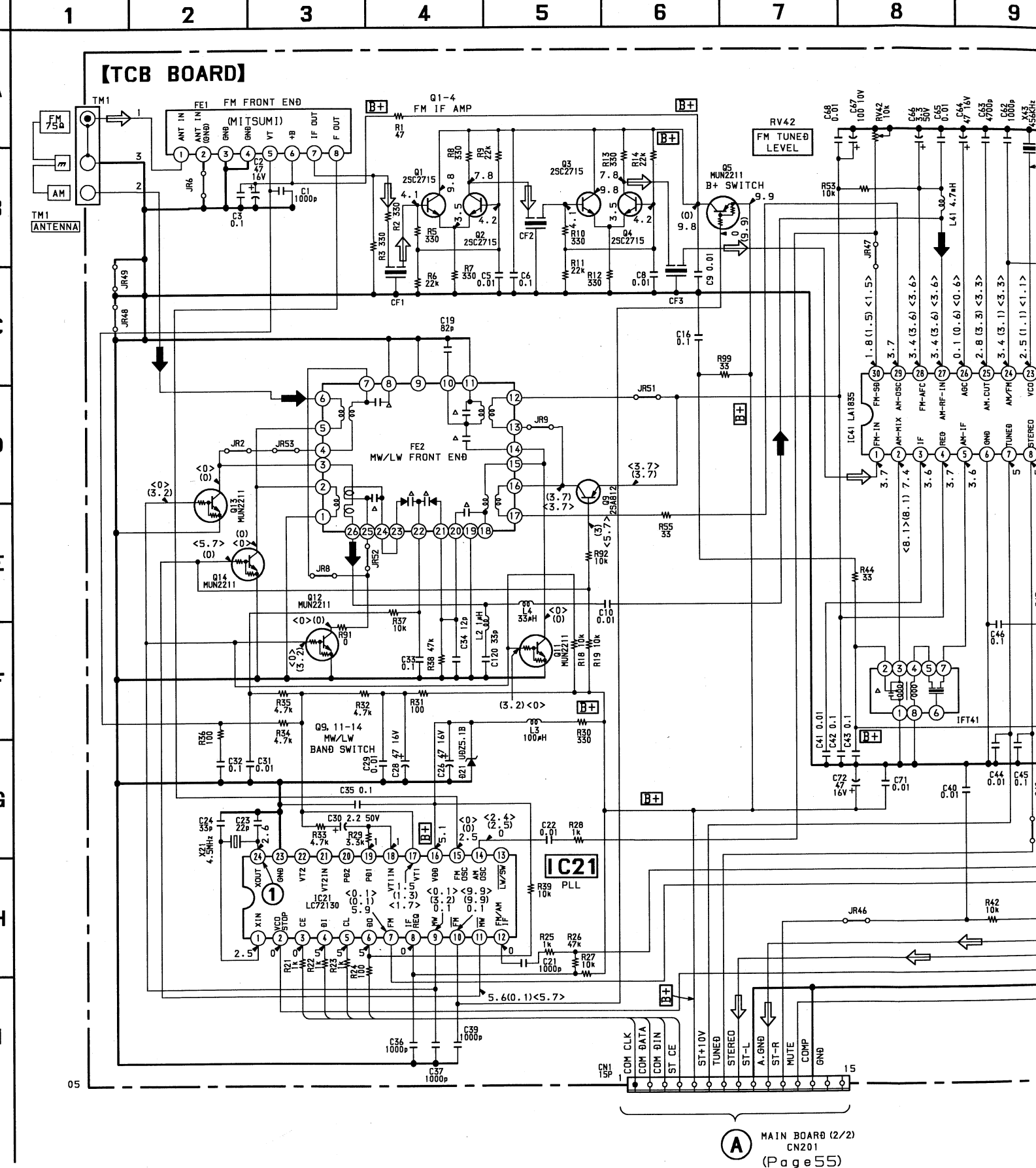
### • Circuit Boards Location



6-1. PRINTED WIRING BOARD – TUNER SECTION –  
(RX70: AEP, AED, G, UK)



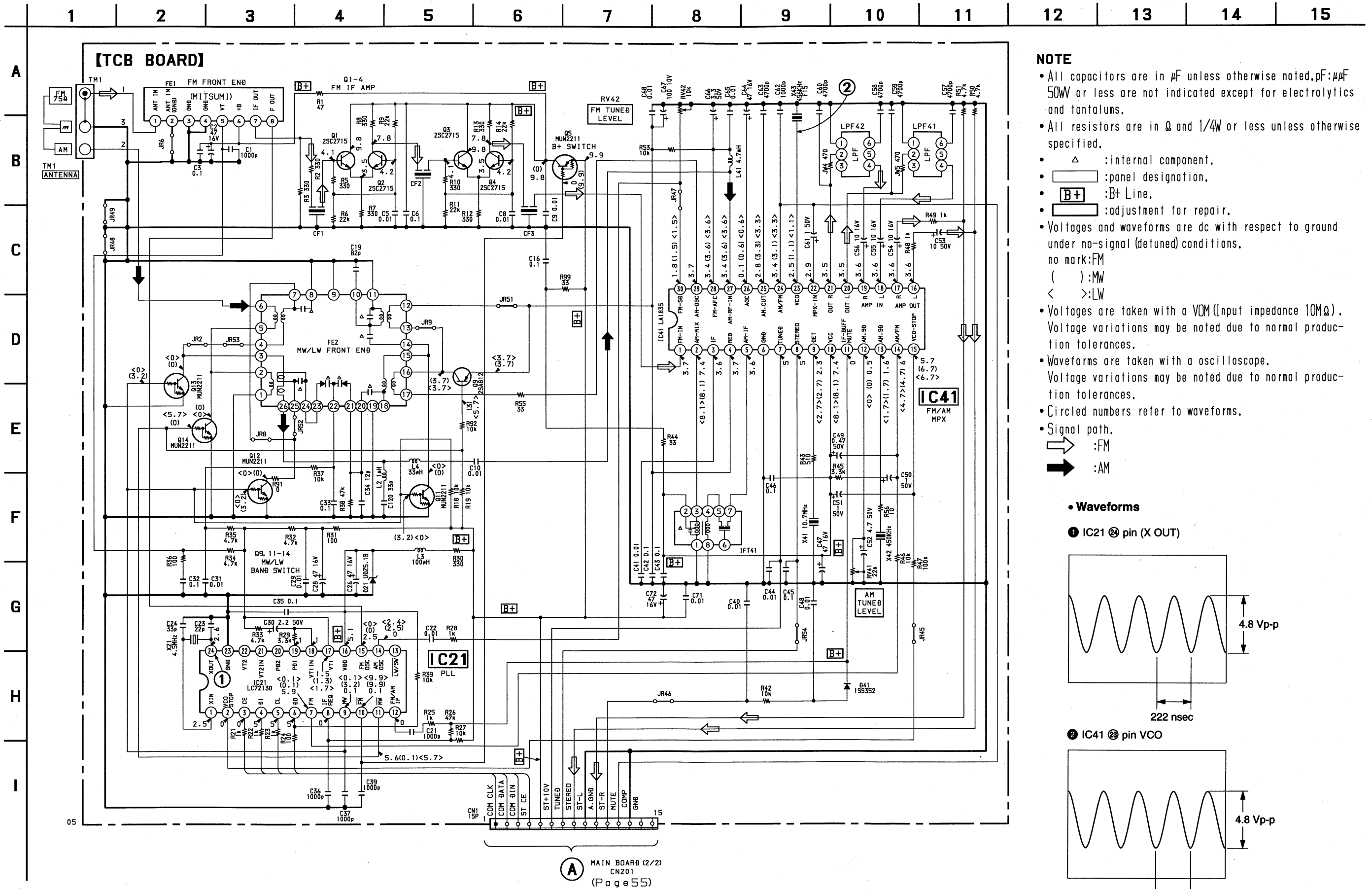
6-2. SCHEMATIC DIAGRAM – TUNER SECTION – • See page 74 for IC Block Diagrams  
(RX70: AEP, AED, G, UK)



6-2. SCHEMATIC DIAGRAM – TUNER SECTION – • See page 74 for IC Block Diagrams  
(RX70: AEP, AED, G, UK)

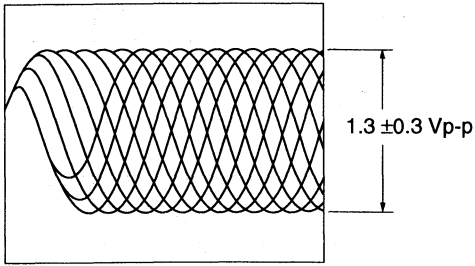
• Semiconductor Location

| Ref. No. | Location |
|----------|----------|
| D21      | G-1      |
| D41      | G-3      |
| IC21     | G-2      |
| IC41     | D-4      |
| Q1       | E-2      |
| Q2       | E-2      |
| Q3       | E-3      |
| Q4       | E-2      |
| Q5       | D-2      |
| Q9       | C-2      |
| Q11      | B-4      |
| Q12      | B-4      |
| Q13      | B-3      |
| Q14      | B-3      |

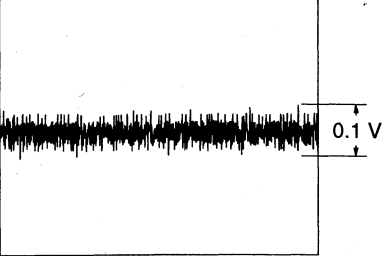


• Waveforms

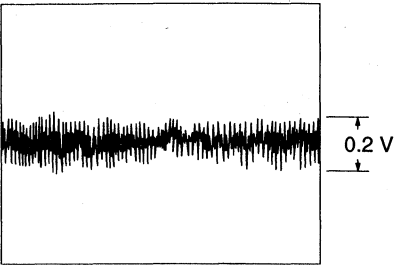
① IC101 ③ pin (PLAY MODE)



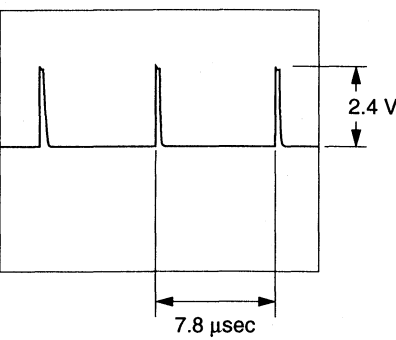
② IC101 ② pin (FEI) (PLAY MODE)



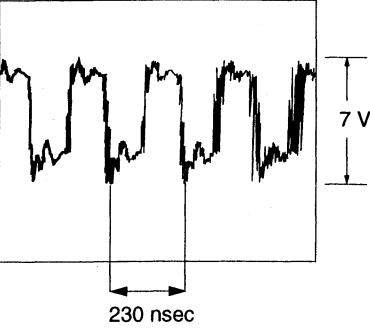
③ IC101 ④ pin (TEI) (PLAY MODE)



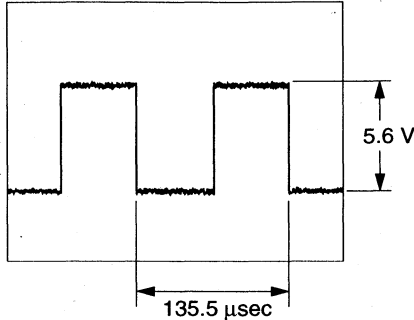
④ IC103 ② pin (MDP)



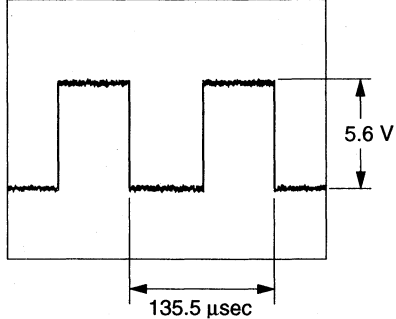
⑤ IC103 ⑥ pin (XPCK)



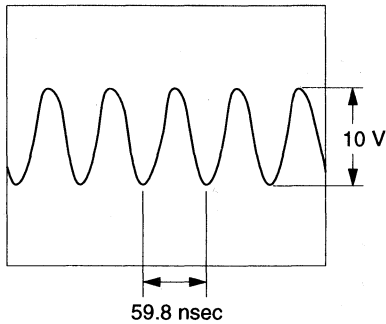
⑥ IC103 ⑧ pin (RFCK)



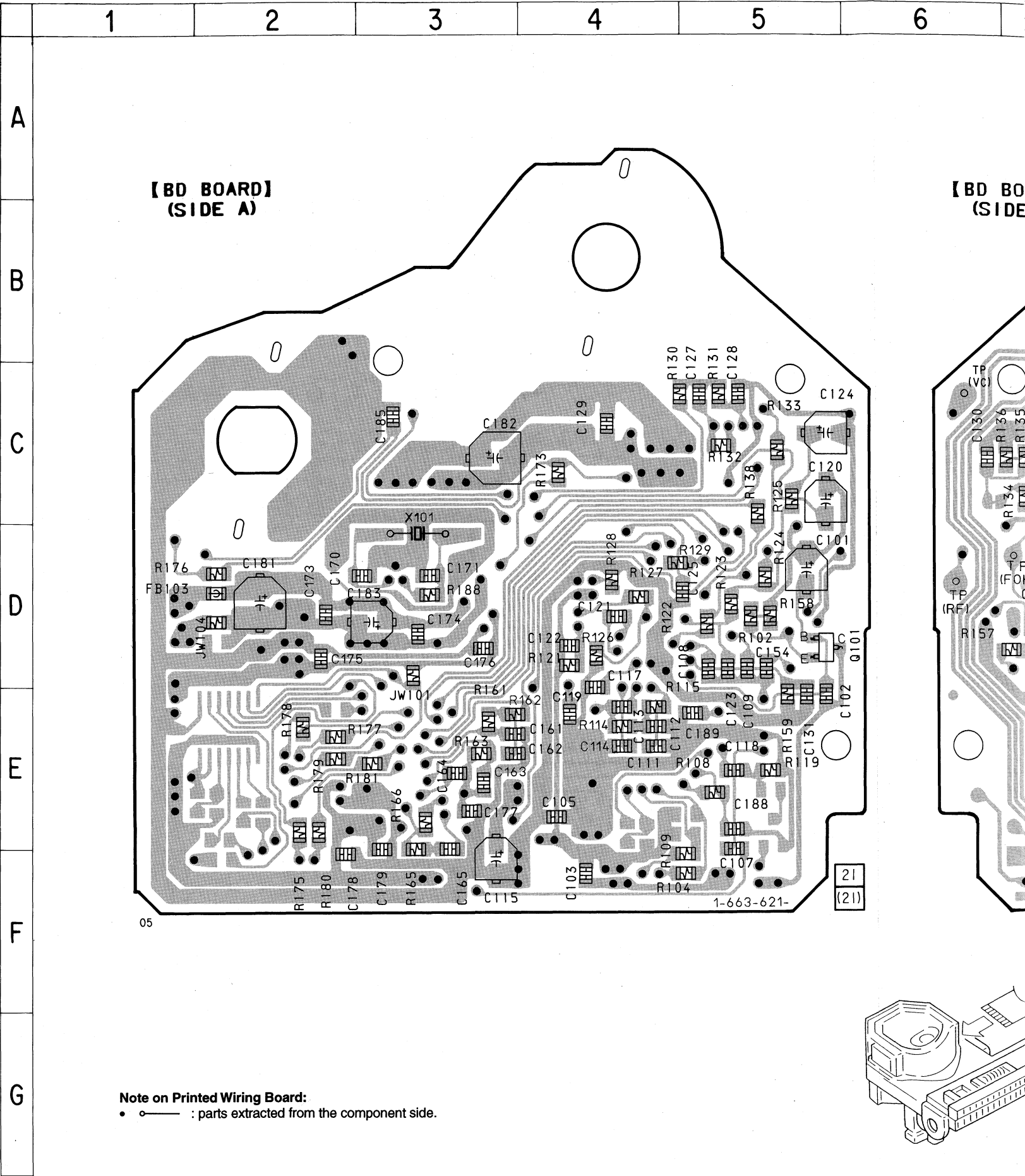
⑦ IC103 ⑦ pin (WFCK)



⑧ IC103 ⑨ pin (XTAI)



6-3. PRINTED WIRING BOARD – CD SECTION – • See page 36 for Circuit Boards Location

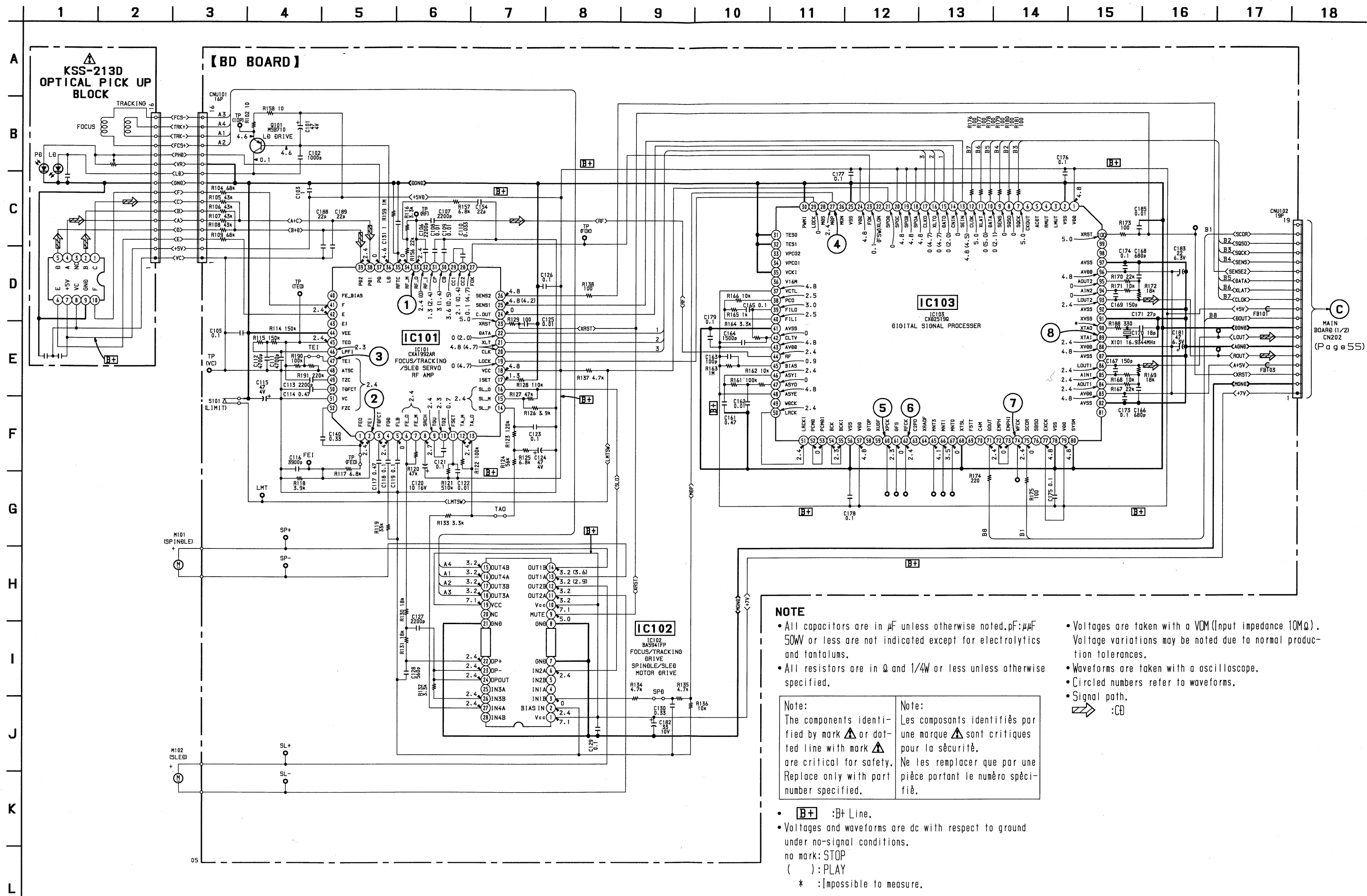








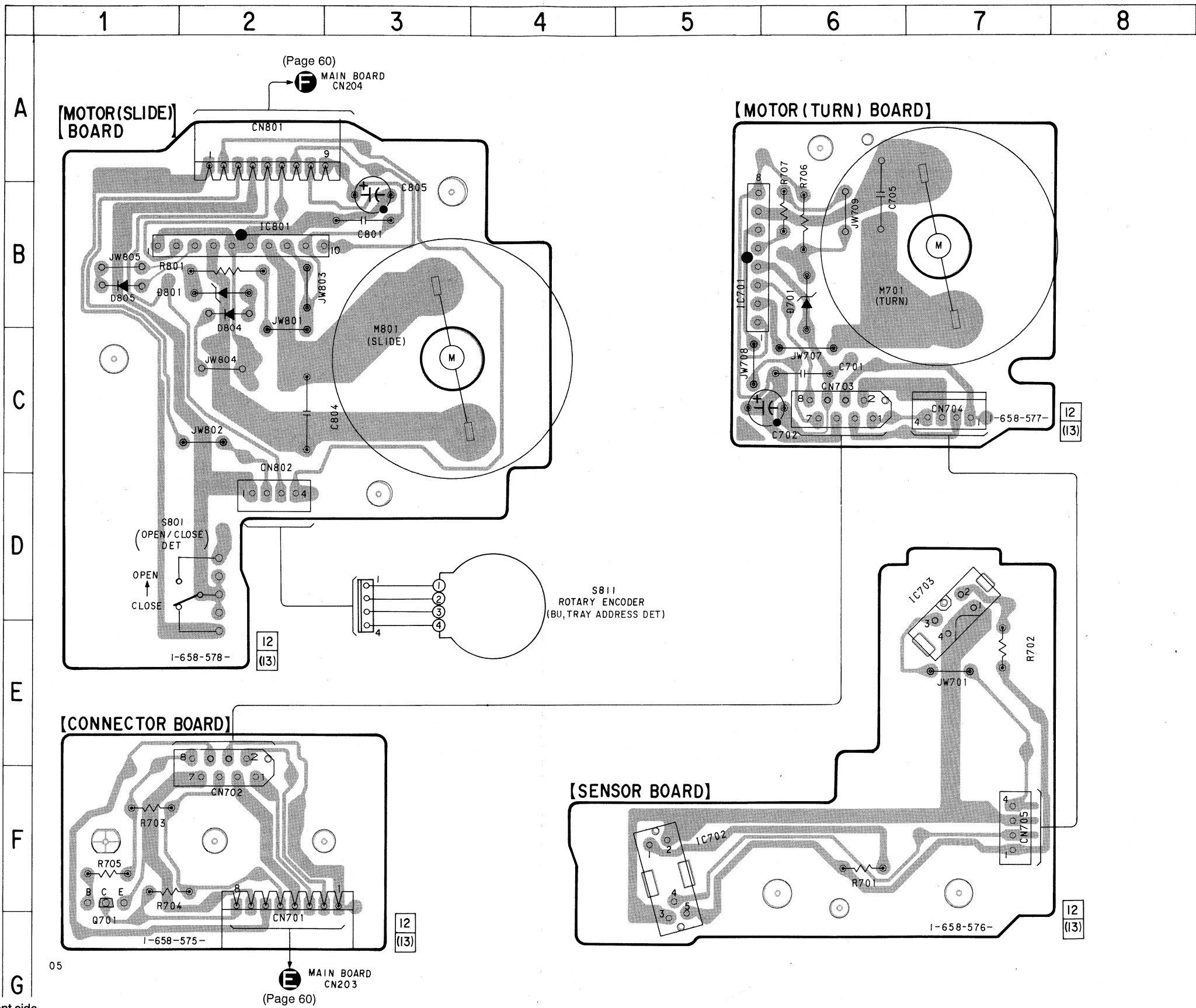
## 6-4. SCHEMATIC DIAGRAM – CD SECTION – • See page 74 for IC Block Diagrams



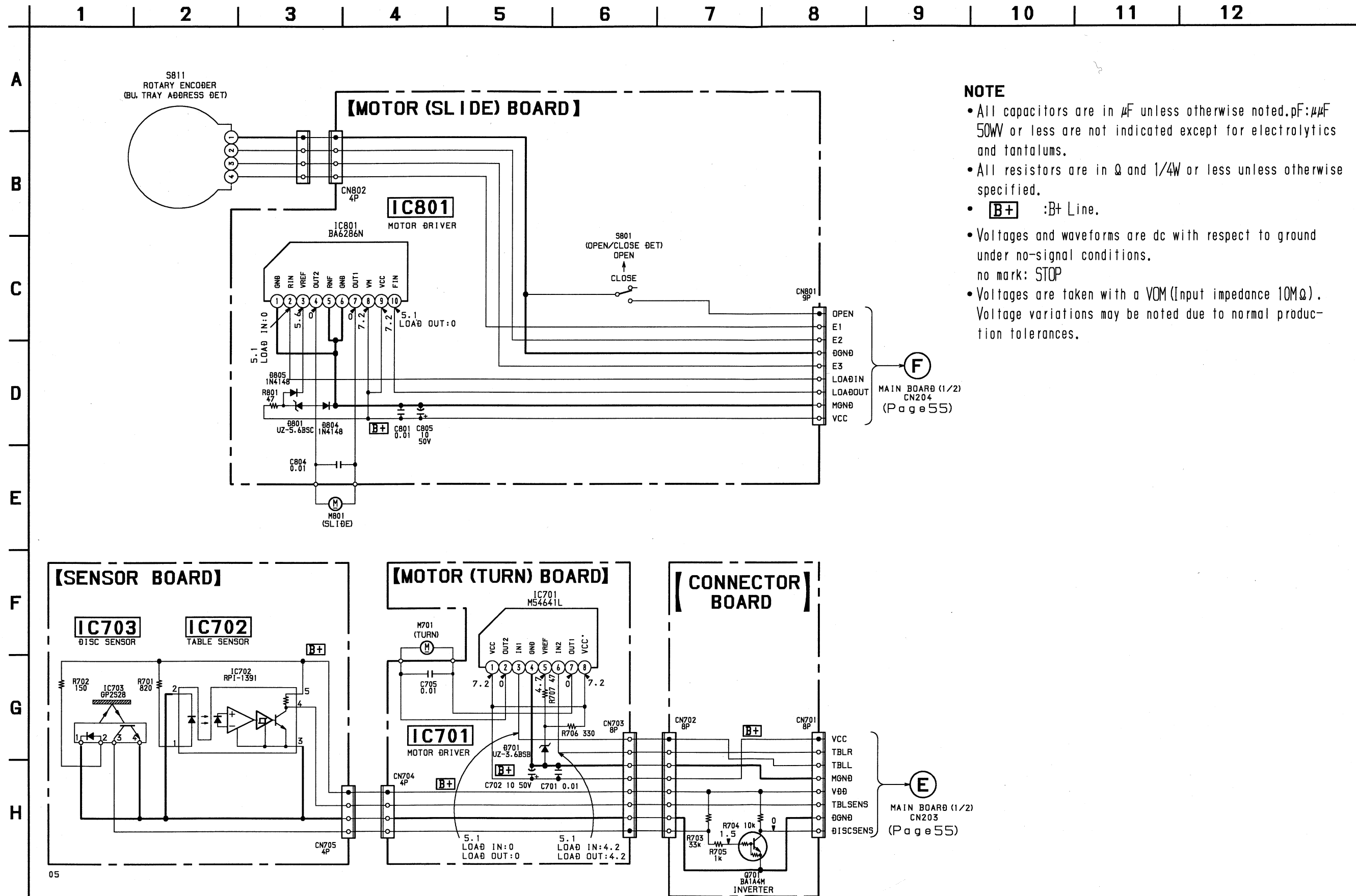
6-5. PRINTED WIRING BOARDS – CD MOTOR SECTION – • See page 36 for Circuit Boards Location

• Semiconductor Location

| Ref. No. | Location |
|----------|----------|
| D701     | B-6      |
| D801     | B-2      |
| D804     | B-2      |
| D805     | B-1      |
| IC701    | B-5      |
| IC702    | F-5      |
| IC703    | D-7      |
| IC801    | B-2      |
| Q701     | F-1      |



## 6-6. SCHEMATIC DIAGRAM - CD MOTOR SECTION - • See page 74 for IC Block Diagrams

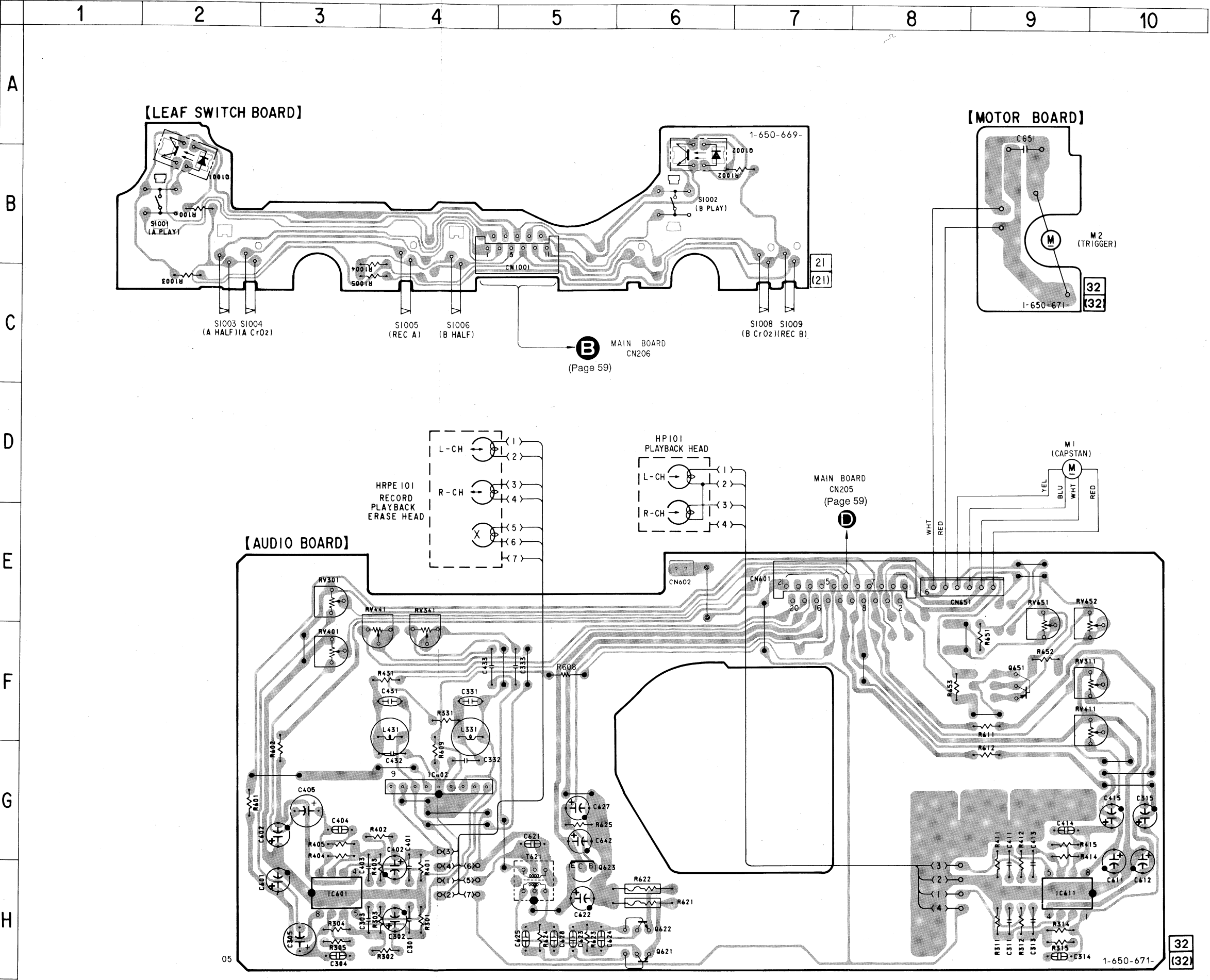


## NOTE

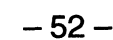
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}:\mu\text{F}$   
50W or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $1/4\text{W}$  or less unless otherwise specified.
- **B+** :B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.  
no mark: STOP
- Voltages are taken with a VOM (Input impedance  $10\text{M}\Omega$ ).  
Voltage variations may be noted due to normal production tolerances.

• Semiconductor Location

| Ref. No. | Location |
|----------|----------|
| IC601    | H-3      |
| IC602    | G-4      |
| IC611    | H-9      |
| Q621     | H-6      |
| Q622     | H-6      |
| Q623     | H-5      |
| Q651     | F-9      |
| Q1001    | B-2      |
| Q1002    | B-6      |



Note on Printed Wiring Board:  
• ○ : parts extracted from the component side.



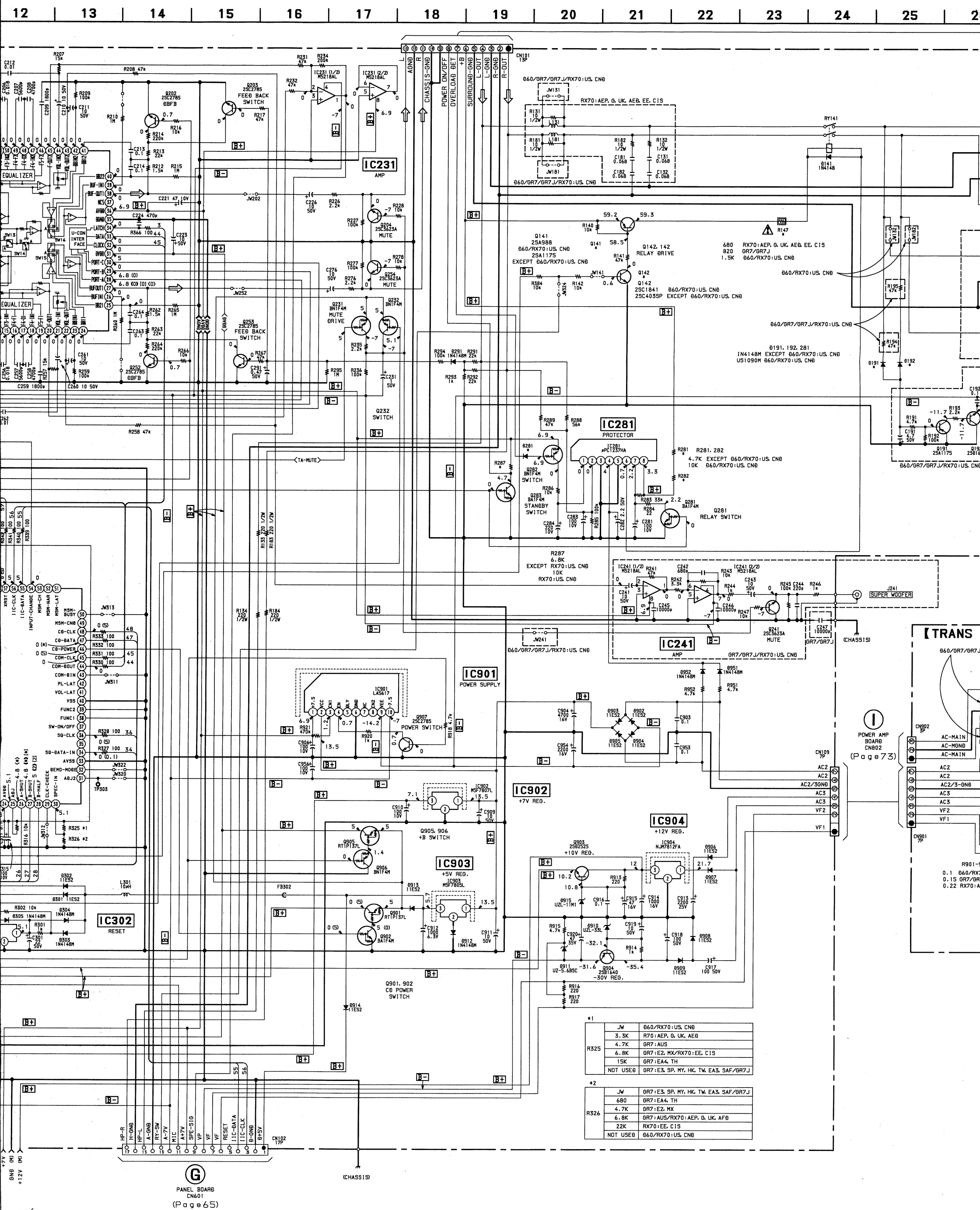


Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- 54 -











| Ref. No. | Location | Ref. No. | Location |
|----------|----------|----------|----------|
| D141     | I-11     | IC902    | H-6      |
| D191     | G-12     | IC903    | F-4      |
| D192     | G-12     | IC904    | H-4      |
| D281     | I-9      | IC1501   | C-3      |
| D291     | I-9      | IC1502   | D-3      |
| D301     | F-6      | Q101     | B-12     |
| D302     | E-6      | Q102     | B-11     |
| D303     | F-6      | Q103     | B-12     |
| D304     | F-6      | Q141     | I-11     |
| D305     | F-6      | Q142     | I-10     |
| D306     | E-7      | Q151     | B-12     |
| D307     | F-6      | Q191     | G-12     |
| D902     | I-7      | Q192     | G-12     |
| D903     | I-7      | Q202     | F-11     |
| D904     | J-7      | Q203     | G-11     |
| D905     | J-7      | Q204     | H-9      |
| D906     | J-6      | Q231     | H-9      |
| D907     | J-5      | Q232     | G-9      |
| D908     | J-4      | Q241     | E-13     |
| D909     | J-4      | Q252     | G-9      |
| D910     | J-4      | Q253     | F-9      |
| D911     | J-4      | Q254     | H-8      |
| D912     | G-5      | Q281     | J-10     |
| D913     | G-4      | Q282     | I-9      |
| D914     | F-4      | Q283     | I-9      |
| D915     | I-4      | Q301     | F-7      |
| D951     | J-7      | Q901     | G-4      |
| D952     | J-7      | Q902     | G-5      |
|          |          | Q903     | I-4      |
| IC102    | C-12     | Q904     | J-4      |
| IC201    | E-10     | Q905     | G-4      |
| IC231    | G-8      | Q906     | G-5      |
| IC241    | F-12     | Q907     | H-5      |
| IC281    | I-10     | Q1531    | D-2      |
| IC301    | D-6      | Q1532    | D-2      |
| IC302    | F-6      | Q1533    | D-2      |
| IC391    | B-13     | Q1534    | D-3      |
| IC901    | H-4      | Q1535    | D-2      |

- ○ — : parts extracted from the component side.
- Δ : internal component.
- Abbreviation
  - AED : 220V AC Area in AEP model
  - AUS : Australian model
  - CND : Canadian model
  - EA3 : 240V AC Area in Saudi Arabia model
  - EA4 : 220V AC Area in Saudi Arabia model
  - EE : East European model
  - E2 : 120V AC Area in E model
  - E3 : 240V AC Area in E model
  - G : German model
  - HK : Hong Kong model
  - MX : Mexican model
  - MY : Malaysia model
  - SAF : South African model
  - SP : Singapore model
  - TH : Thailand model
  - TW : Taiwan model



(Page 37)

**A**

FM/AM TUNER PACK \* NOTE  
TCB BOARD \* NOTE  
CN1

FM/AM TUNER PACK IS SUPPL  
AS THE ASSEMBLED BLOCK

(Page 45)

**F**

MOTOR (SLIDE) BOARD  
CN801

(Page 45)

**E**

CONNECTOR BOARD  
CN701

(Page 42)

**C**

BD BOARD  
CN102



(CHASSIS)

POWER AMP  
BOARD  
CN801

**H** (Page 71)



11

12

13

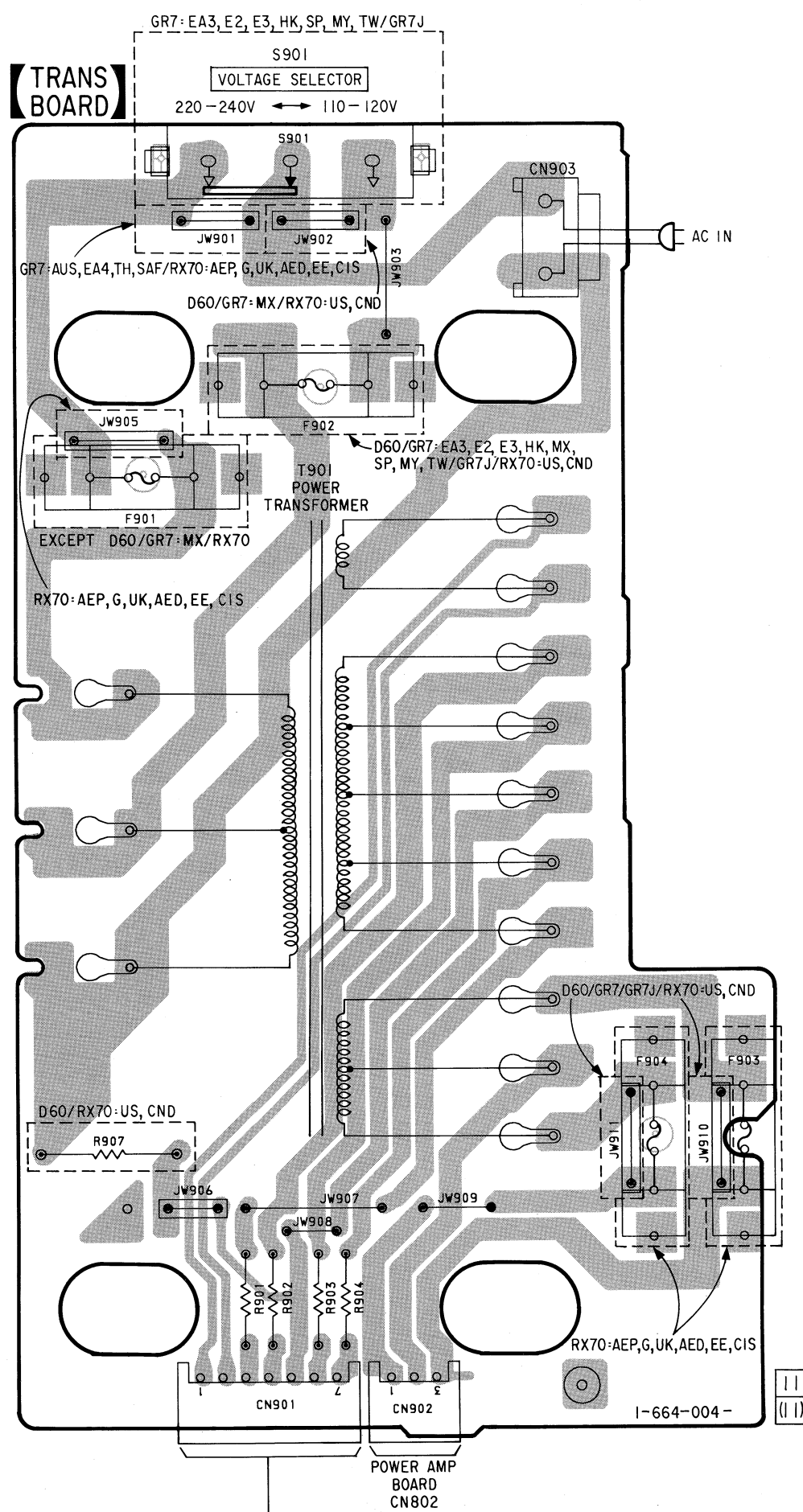
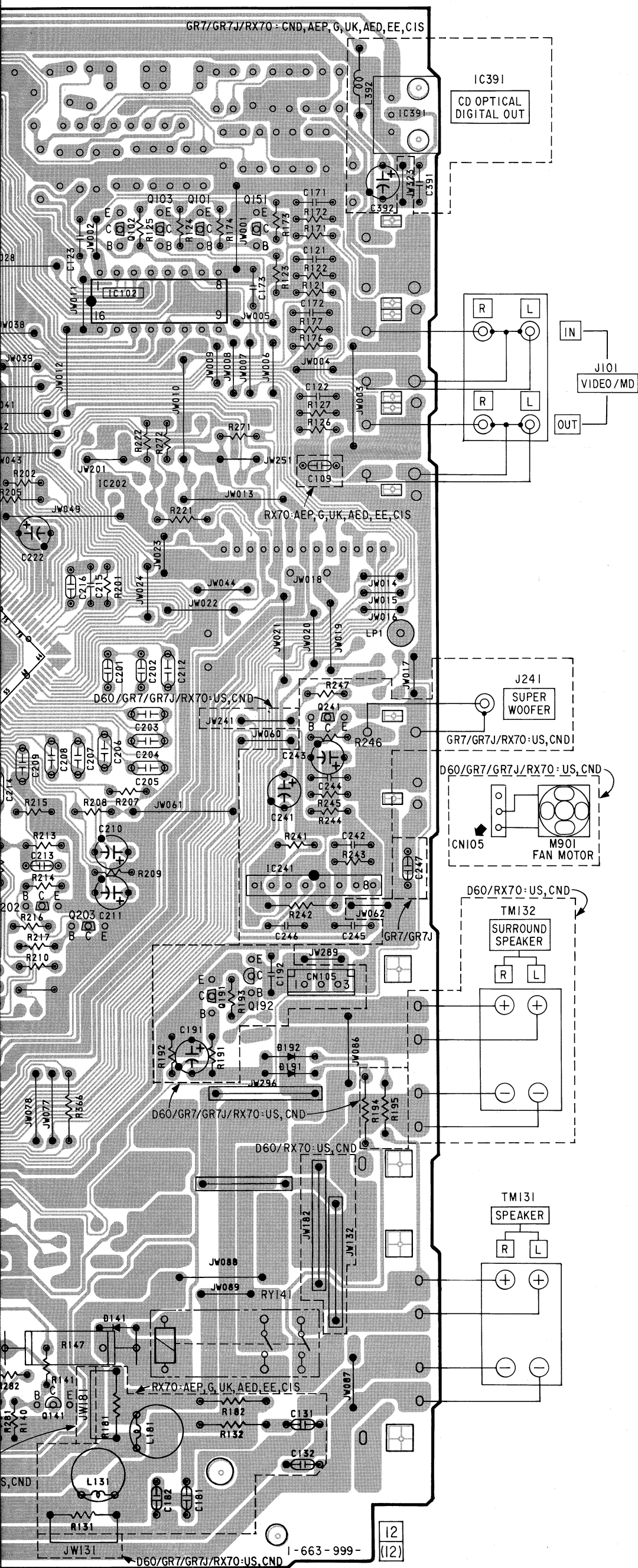
14

15

16

17

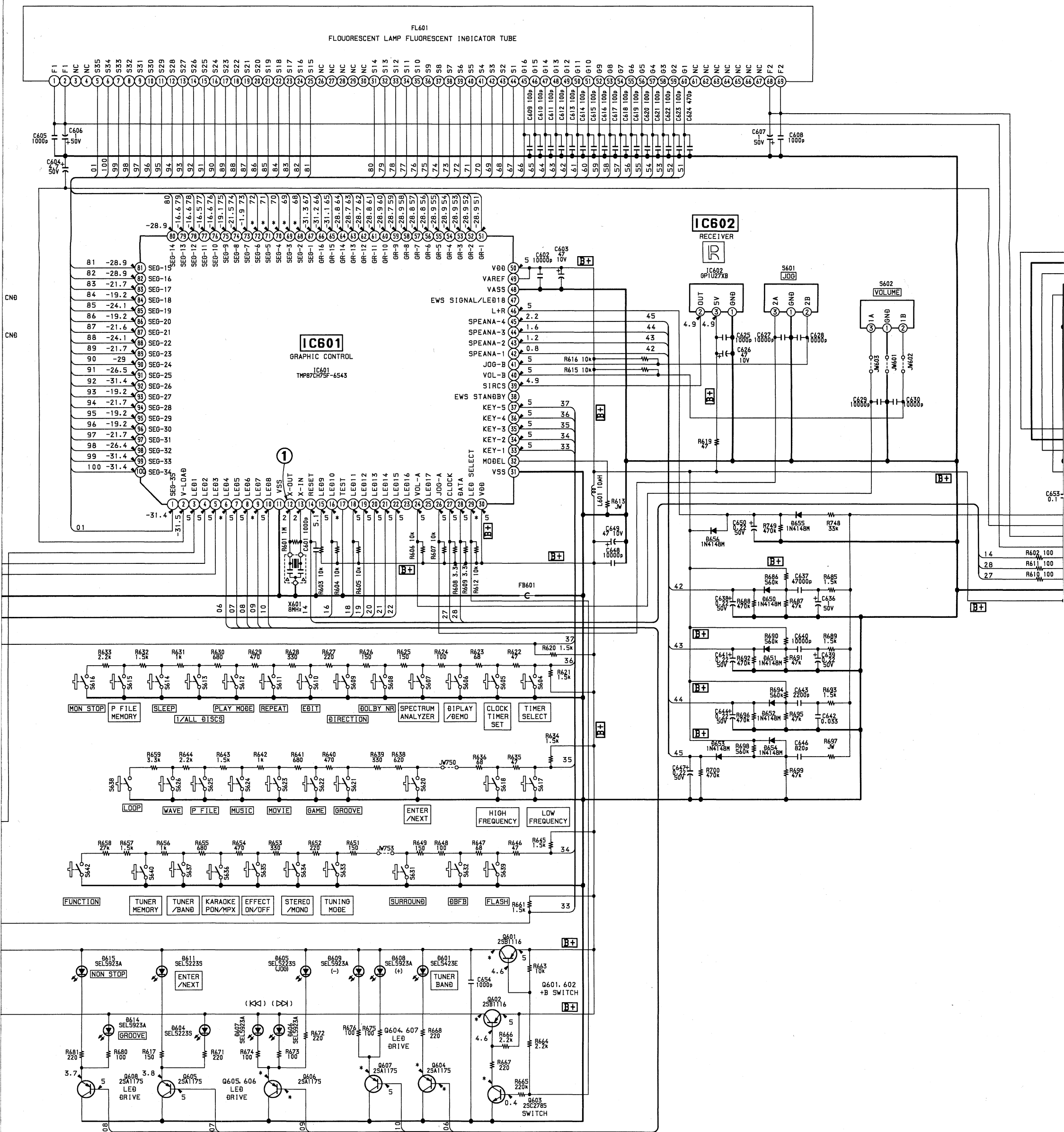
18

K \* NOTE  
TEFM/AM TUNER PACK IS SUPPLIED  
AS THE ASSEMBLED BLOCK



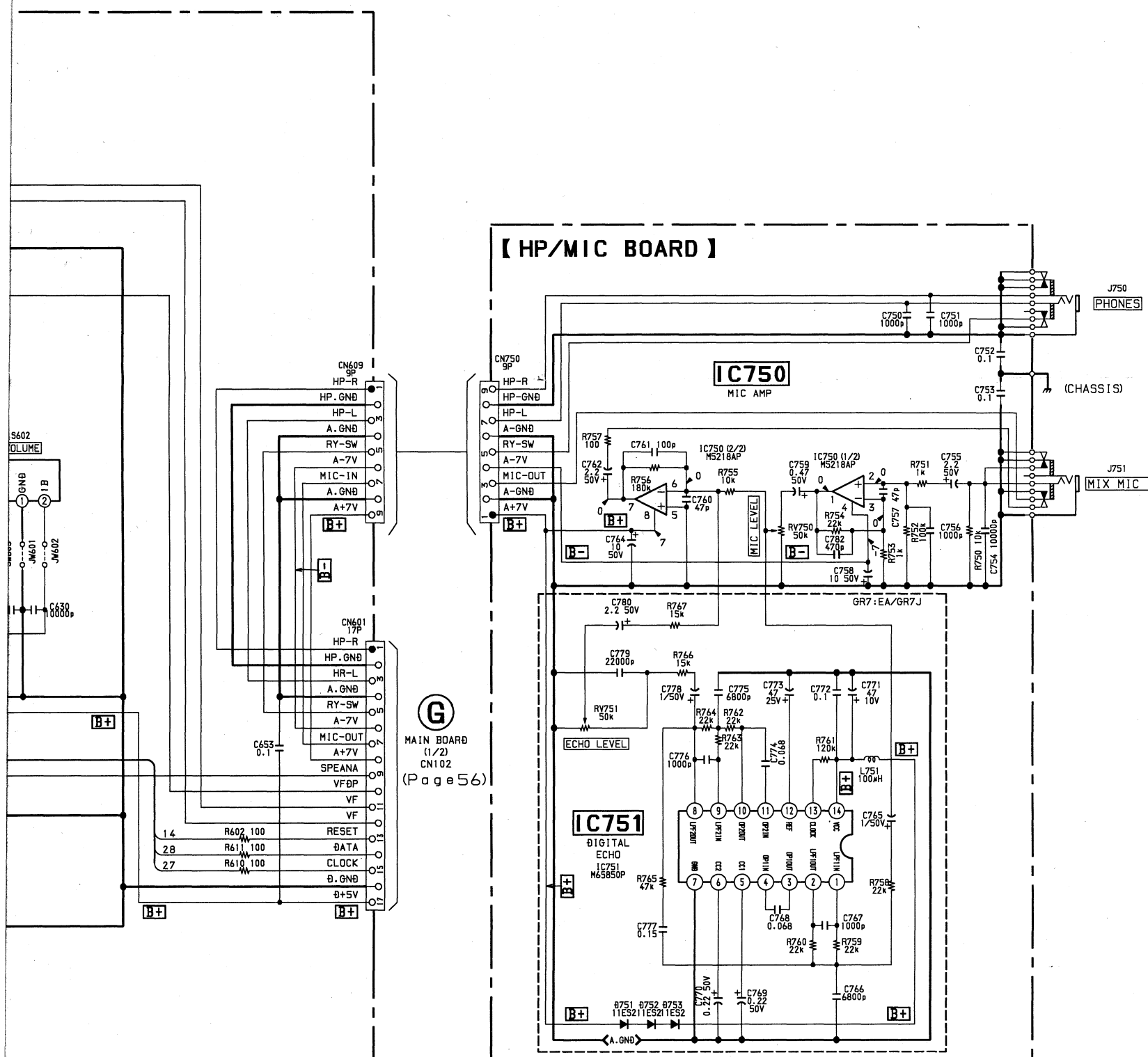




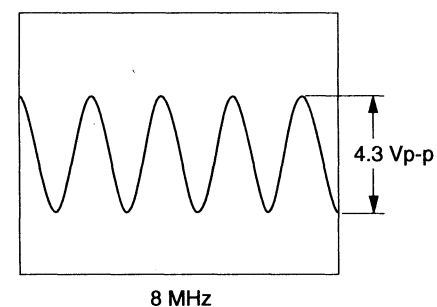


21 22 23 24 25 26 27 28 29

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N



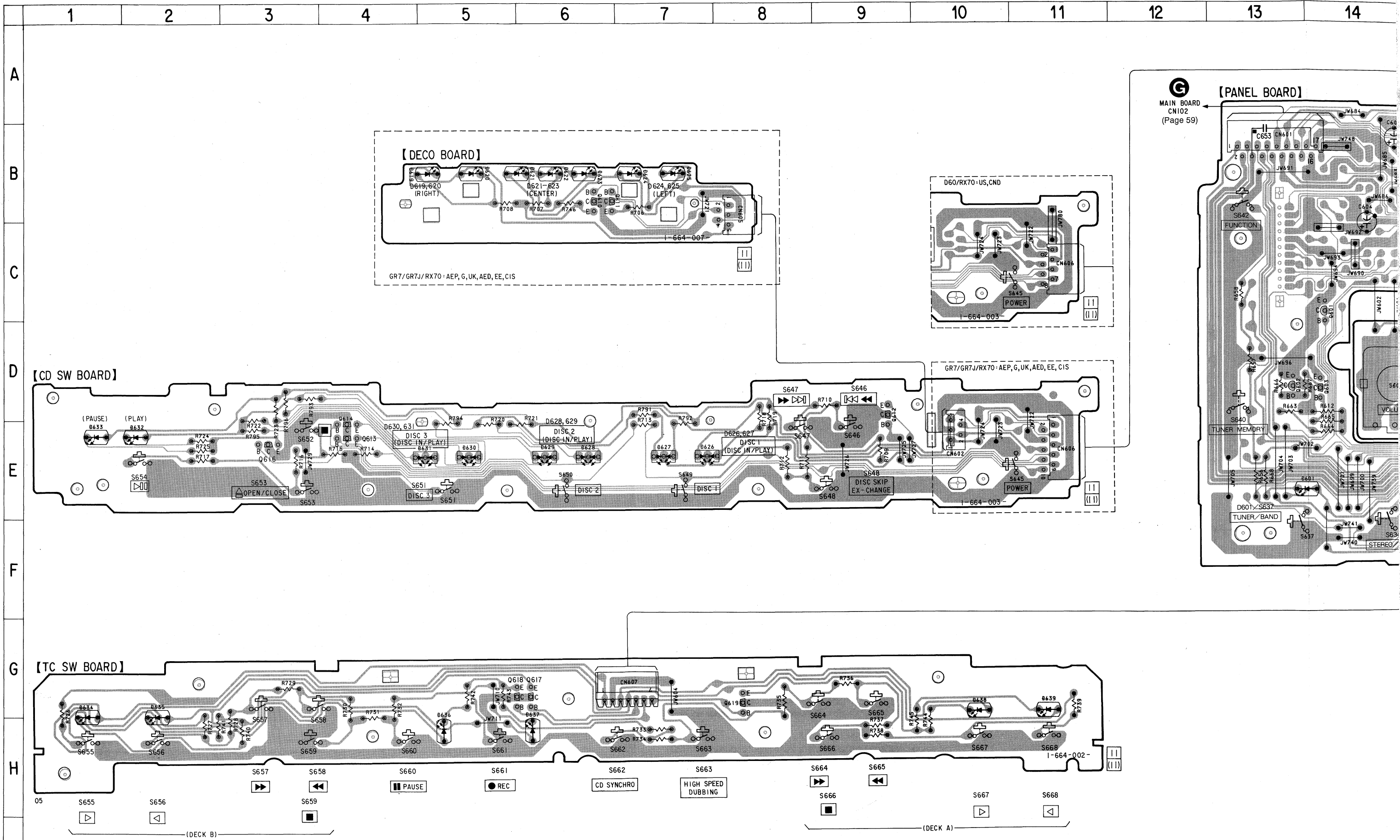
• Waveform  
① IC601 ⑫



#### Note on Schematic Diagram:

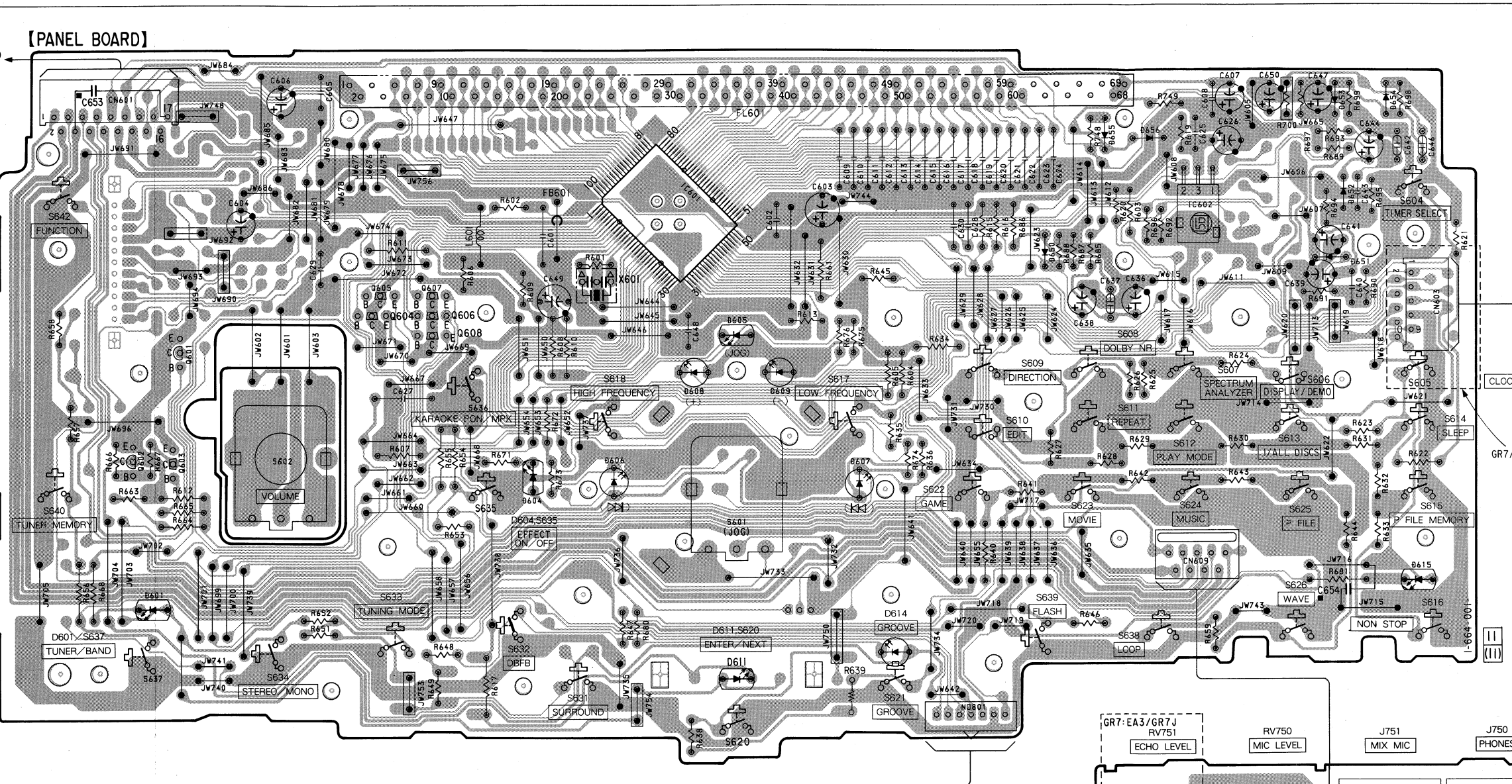
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{pF}$   
50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}\text{W}$  or less unless otherwise specified.
- $\Delta$  : internal component.
- $\text{B}+$  : B+ Line.
- $\text{B}-$  : B- Line.
- $\square$  : panel designation.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.  
no mark : FM  
\* : Impossible to measure
- Voltages are taken with a VOM (Input impedance  $10\text{M}\Omega$ ).  
Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.  
Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Abbreviation  
AED : 220V AC Area in AEP model  
CND : Canadian model  
EA3 : 240V AC Area in Saudi Arabia model  
EE : East European model  
G : German model





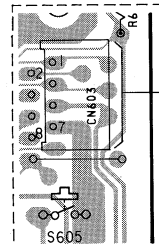
13 14 15 16 17 18 19 20 21 22 23 24

[PANEL BOARD]



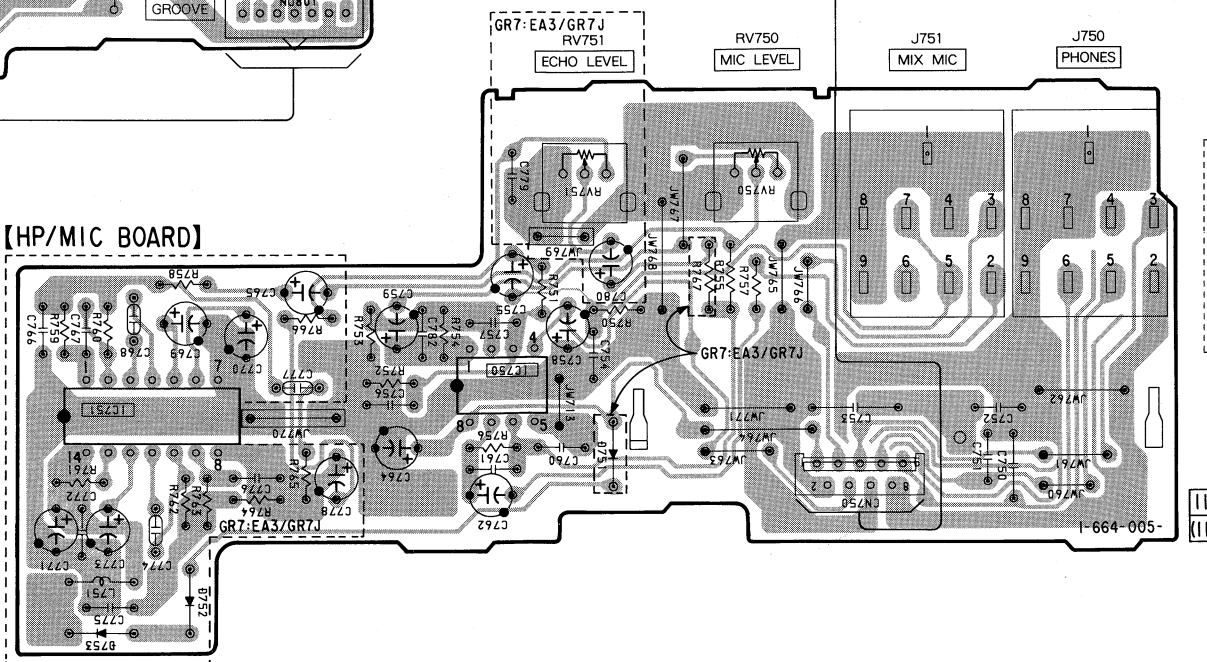
• Semiconductor Location

| Ref. No. | Location | Ref. No. | Location |
|----------|----------|----------|----------|
| D601     | E-14     | IC601    | B-17     |
| D604     | D-16     | IC602    | B-21     |
| D605     | C-18     | IC750    | H-20     |
| D606     | D-17     | IC751    | H-19     |
| D607     | D-18     |          |          |
| D608     | D-17     | Q601     | C-14     |
| D609     | D-18     | Q602     | D-13     |
| D611     | F-18     | Q603     | D-14     |
| D614     | F-19     | Q604     | C-15     |
| D615     | E-22     | Q605     | C-15     |
| D619     | B-5      | Q606     | C-15     |
| D620     | B-5      | Q607     | C-15     |
| D621     | B-6      | Q608     | C-15     |
| D622     | B-6      | Q610     | B-6      |
| D623     | B-6      | Q611     | B-6      |
| D624     | B-7      | Q612     | D-9      |
| D625     | B-7      | Q613     | E-4      |
| D626     | E-7      | Q614     | E-4      |
| D627     | E-7      | Q616     | E-3      |
| D628     | E-6      | Q617     | G-6      |
| D629     | E-6      | Q618     | G-6      |
| D630     | E-5      | Q619     | G-8      |
| D631     | E-5      |          |          |
| D632     | E-2      |          |          |
| D633     | E-1      |          |          |
| D634     | G-1      |          |          |
| D635     | G-2      |          |          |
| D636     | H-5      |          |          |
| D637     | H-6      |          |          |
| D638     | G-10     |          |          |
| D639     | G-11     |          |          |
| D650     | C-20     |          |          |
| D651     | C-22     |          |          |
| D652     | B-22     |          |          |
| D653     | B-22     |          |          |
| D654     | B-22     |          |          |
| D655     | B-20     |          |          |
| D656     | B-21     |          |          |
| D751     | H-21     |          |          |
| D752     | I-19     |          |          |
| D753     | I-18     |          |          |



GR7/GR7J/RX70-AEP, G, UK, AED, EE, CIS

[HP/MIC BOARD]



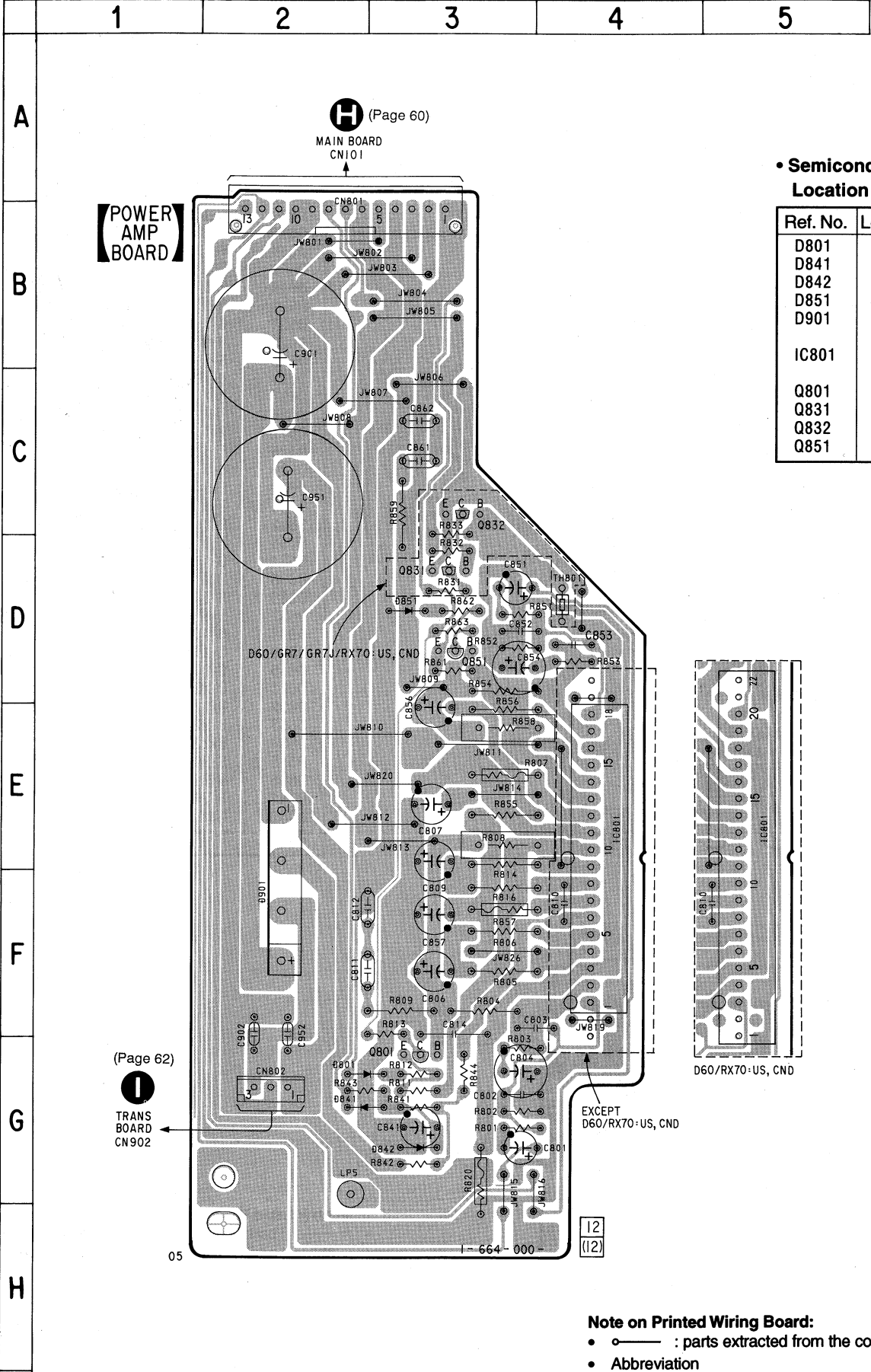
Note on Printed Wiring Board:

- : parts extracted from the component side.
- : parts mounted on the conductor side.
- △ : internal component.
- Abbreviation
  - AED : 220V AC Area in AEP model
  - CND : Canadian model
  - EA3 : 240V AC Area in Saudi Arabia model
  - EE : East European model
  - G : German model



6-13. PRINTED WIRING BOARD – POWER AMP SECTION –

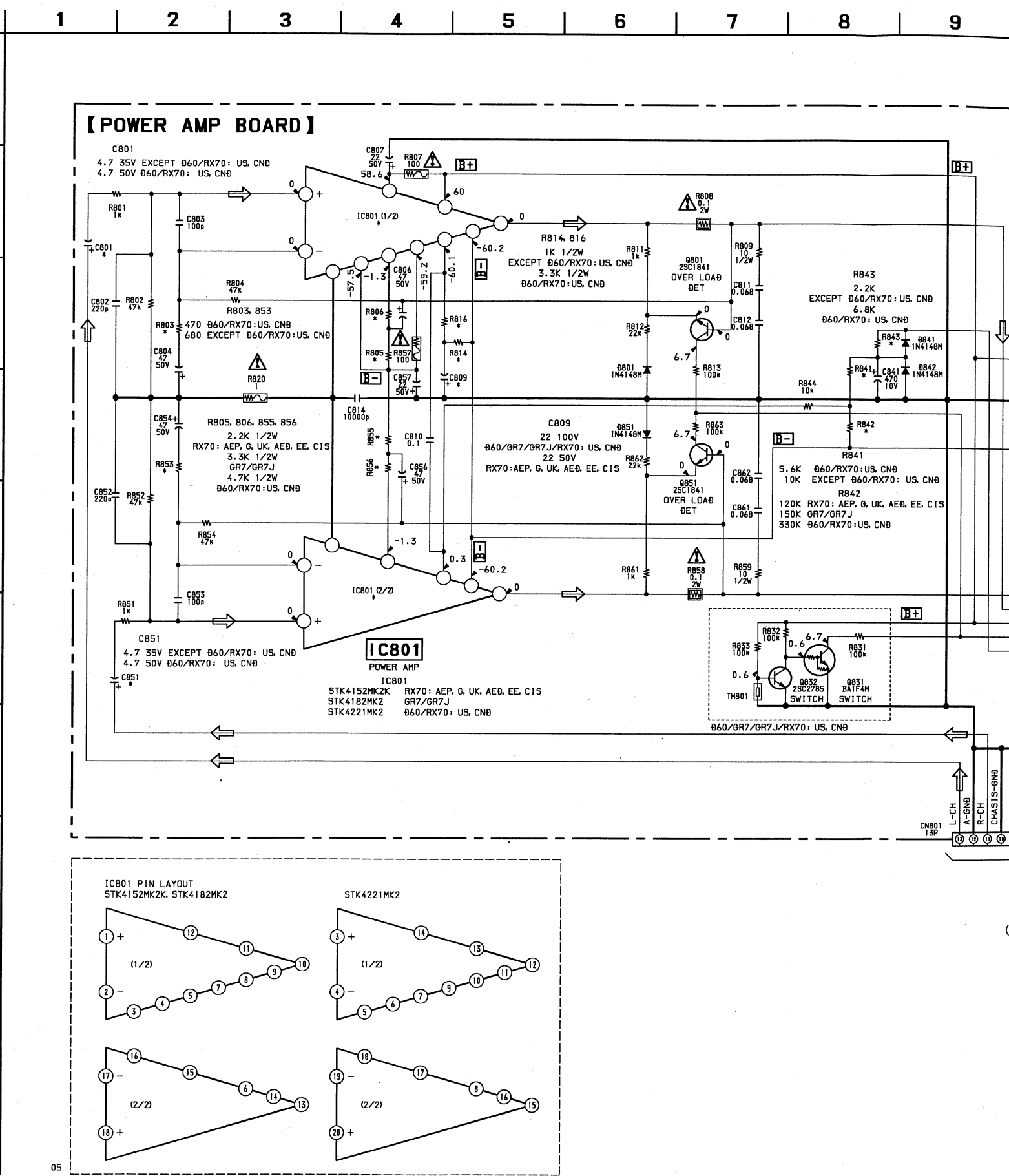
• See page 36 for Circuit Boards Location

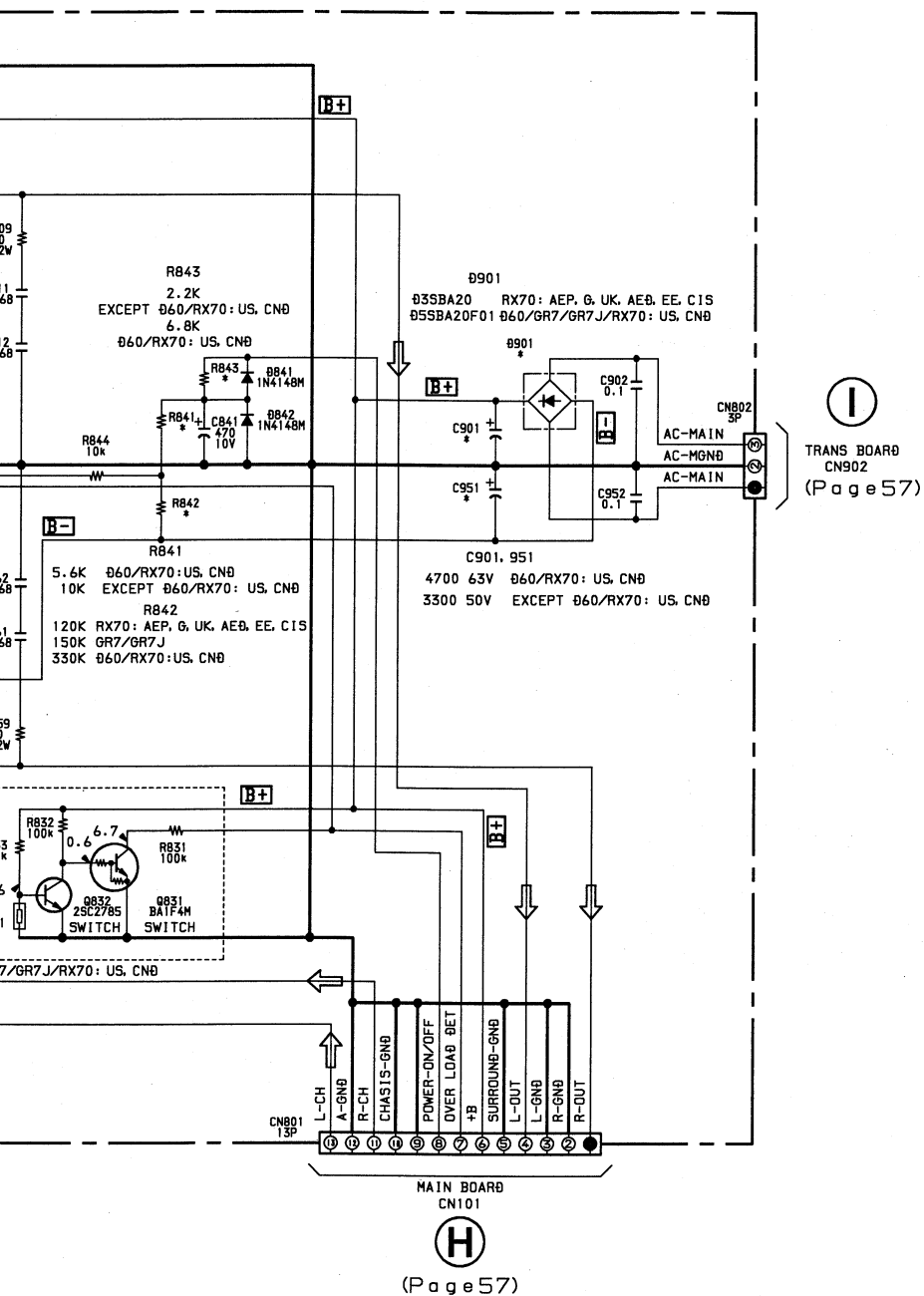


• Semiconductor Location

| Ref. No. | Location |
|----------|----------|
| D801     | G-2      |
| D841     | G-2      |
| D842     | G-3      |
| D851     | D-3      |
| D901     | F-2      |
| IC801    | E-4      |
| Q801     | G-3      |
| Q831     | D-3      |
| Q832     | C-3      |
| Q851     | D-3      |

6-14. SCHEMATIC DIAGRAM – POWER AMP SECTION –





#### Note on Schematic Diagram:

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{pF}$  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}\text{W}$  or less unless otherwise specified.
- : nonflammable resistor.
- : fusible resistor.

#### Note:

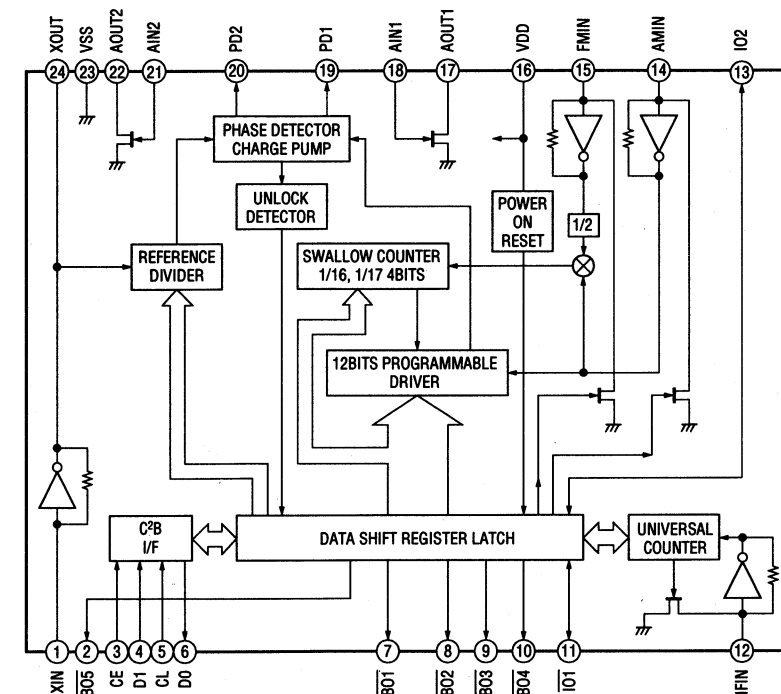
The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

#### Note:

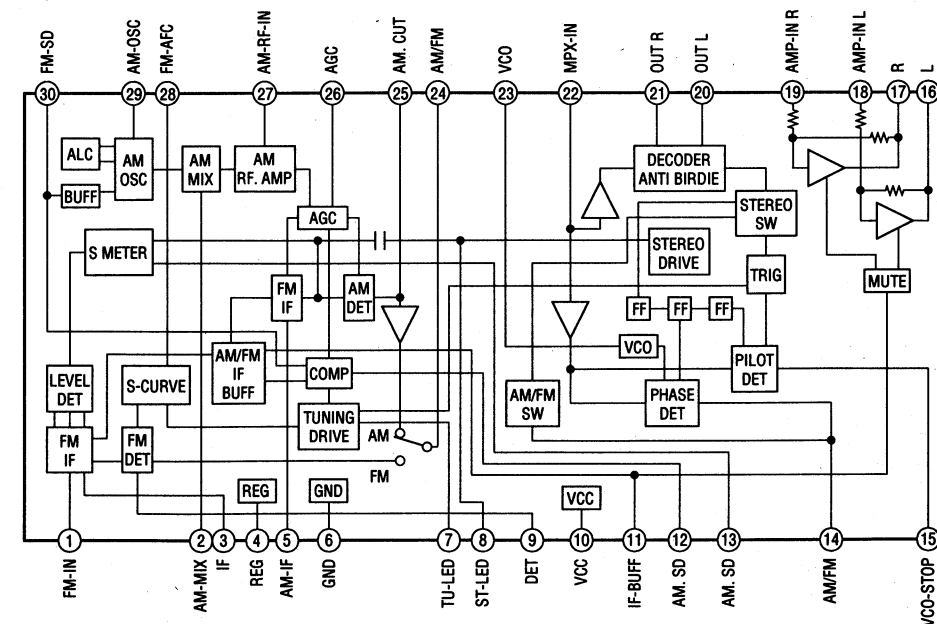
Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- **B+** : B+ Line.
- **B-** : B- Line.
- Voltages are dc with respect to ground under no-signal (detuned) conditions. no mark : FM
- Voltages are taken with a VOM (Input impedance 10 M $\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Signal path.  
 : FM
- Abbreviation  
 AED : 220V AC Area in AEP model  
 CND : Canadian model  
 EE : East European model  
 G : German model

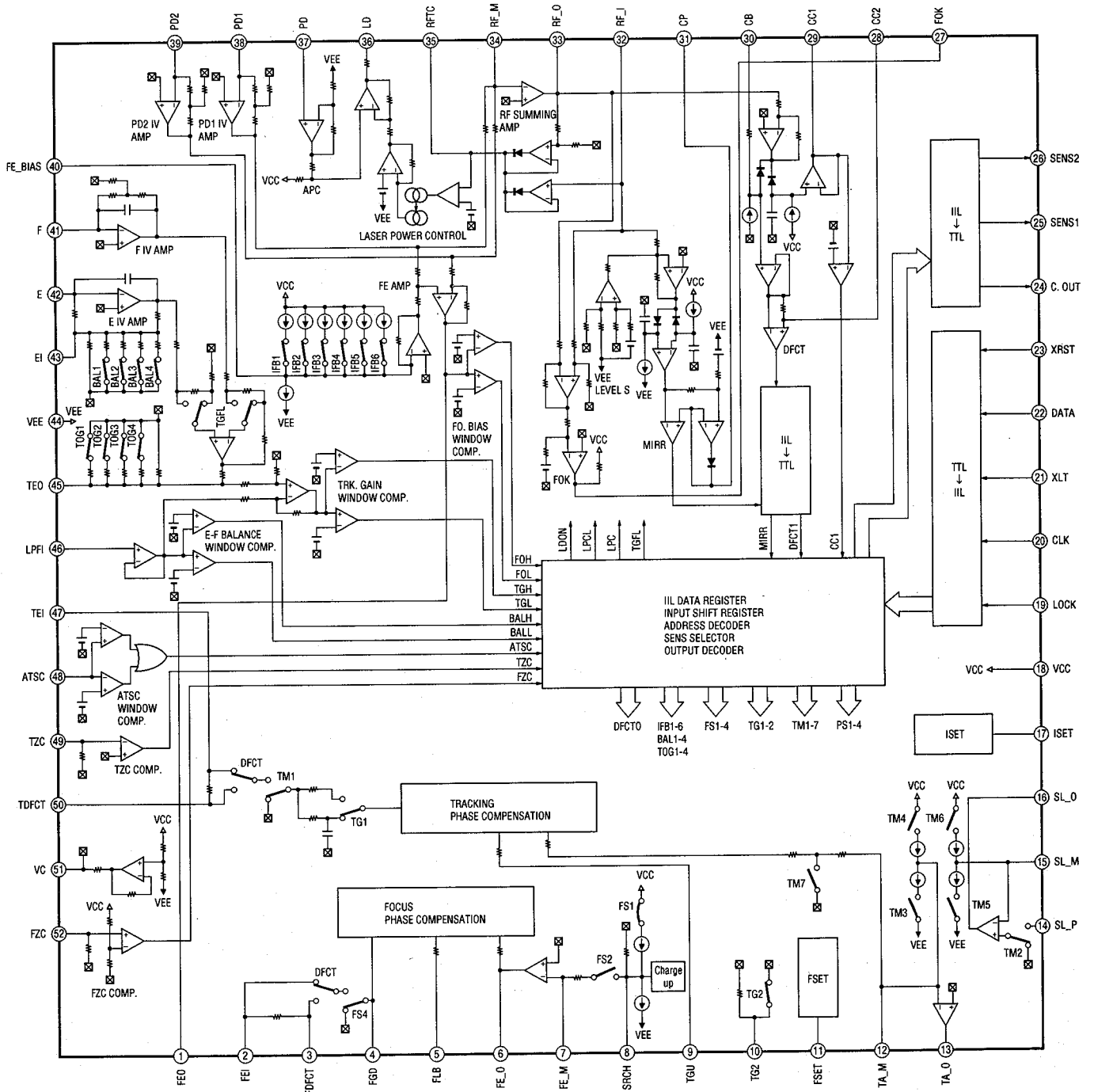
#### • IC Block Diagrams IC21 LC72130 (TCB BOARD)



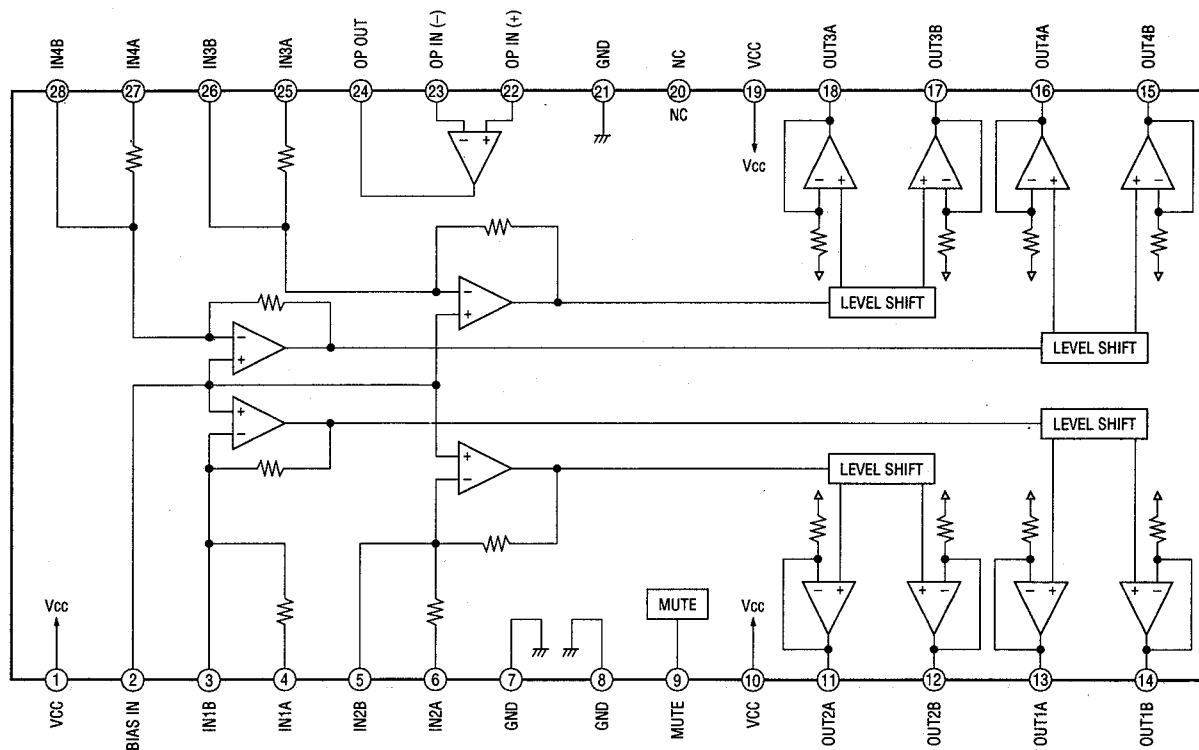
#### IC41 LA1835 (TCB BOARD)



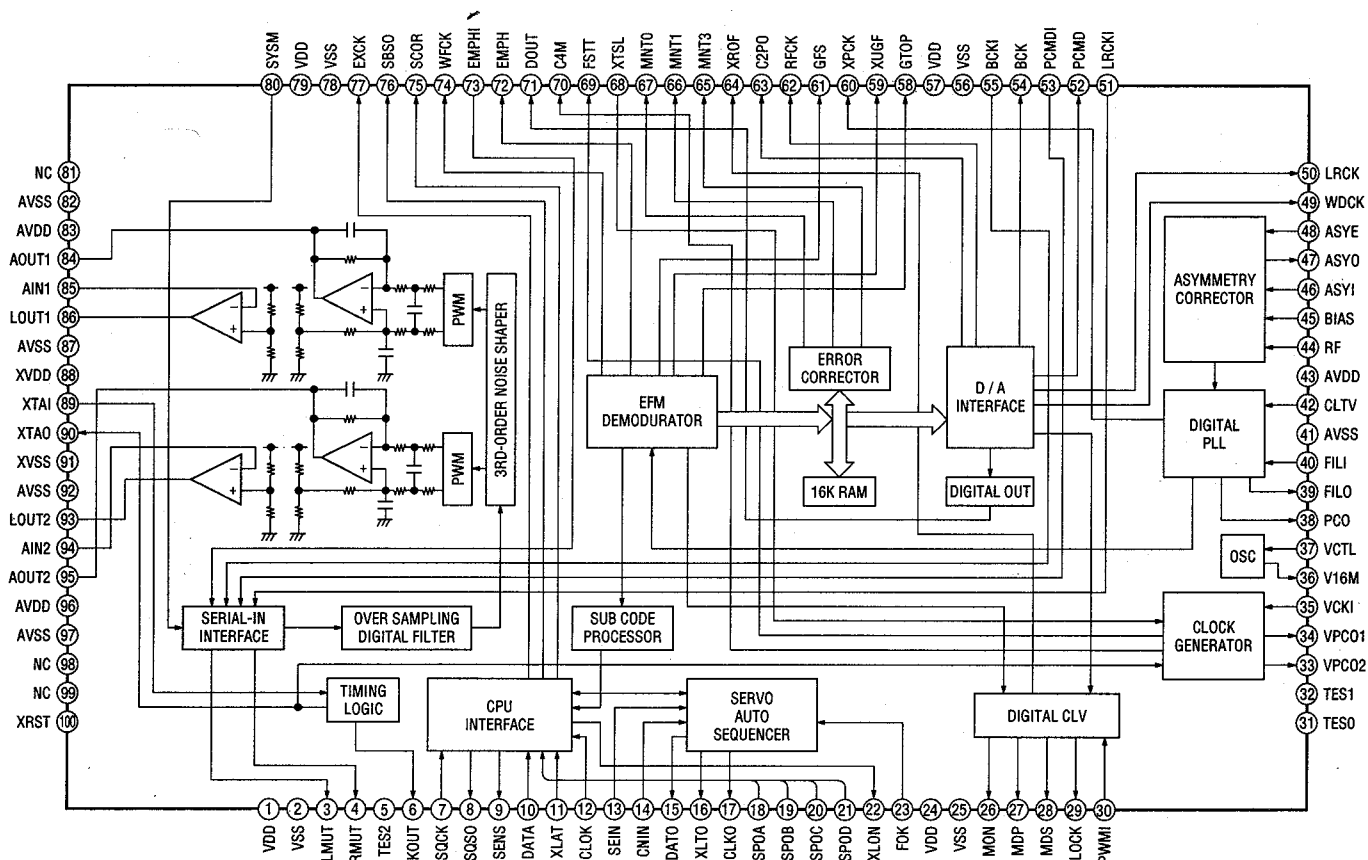
# IC101 CXA1992AR (BD BOARD)



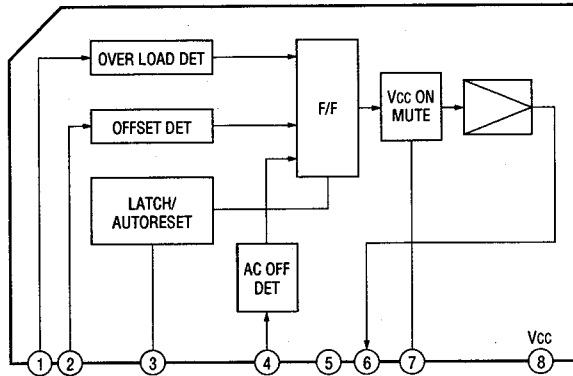
# IC102 BA5941FP-E2 (BD BOARD)



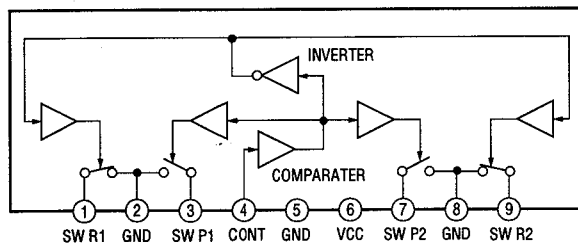
# IC103 CXD2519Q (BD BOARD)



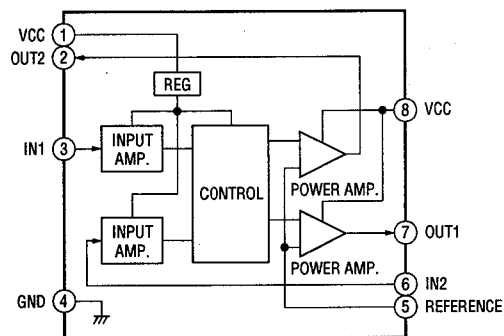
**IC281  $\mu$ PC1237HA (MAIN BOARD)**



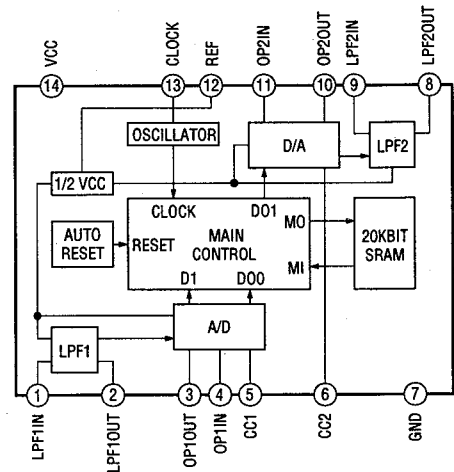
**IC602  $\mu$ PC1330HA (AUDIO BOARD)**



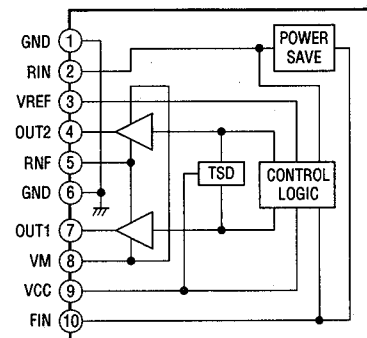
**IC701 M54641L  
(MOTOR (TURN) BOARD)**



**IC751 M65850P (HP/MIC BOARD)**

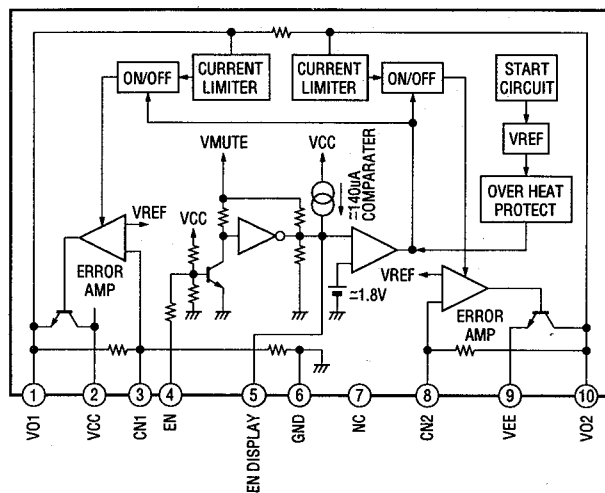


**IC801 BA6286N  
(MOTOR (SLIDE) BOARD)**

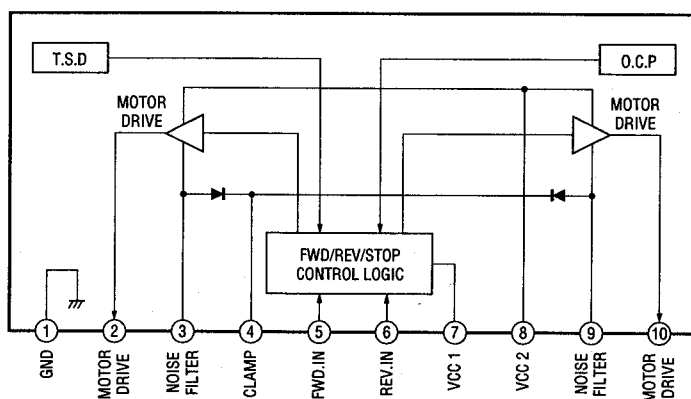




# IC901 LA5617 (MAIN BOARD)



# IC1502 LB1641 (MAIN BOARD)



# 6-15. IC PIN FUNCTION DESCRIPTION

## MAIN BOARD IC301 $\mu$ PD780018YGF-011-3BA (MASTER CONTROL)

| Pin No. | Pin Name     | I/O | Function                                 |
|---------|--------------|-----|------------------------------------------|
| 1       | TA-MUTE      | O   | Line mute signal output                  |
| 2       | DBFB-H/L     | O   | DBFB H/L select signal output            |
| 3       | 427-LAT      | O   | Latch signal output for IC201 (M62427FP) |
| 4       | K-CON-LAT    | O   | Not used                                 |
| 5       | K-CON-ON     | O   |                                          |
| 6       | F-RELAY      | O   | Front speaker relay control output       |
| 7       | R-RELAY      | O   | Not used                                 |
| 8       | PL-RELAY     | O   |                                          |
| 9       | TEST         | I   | Connected ground                         |
| 10      | X2           | O   | X'tal (5MHz)                             |
| 11      | X1           | I   |                                          |
| 12      | VDD          | –   | Power supply (+5V)                       |
| 13      | XT2          | O   | X'tal (32.768 kHz)                       |
| 14      | XT1          | I   |                                          |
| 15      | RESET        | I   | Reset signal input                       |
| 16      | (INT/IN)     | I   | Connected ground                         |
| 17      | (INT/IN/OUT) | I   |                                          |
| 18      | SCOR         | O   | Subcode data request signal output       |
| 19      | SOFT-TEST    | O   | Software test port                       |
| 20      | AC-CUT       | I   | Back up signal input (Not used )         |
| 21      | RDS-INT      | I   | Connected ground                         |
| 22      | RDS-DATA     | I   | Not used                                 |
| 23      | VDD          | –   | Power supply (+5V)                       |
| 24      | AVDD         | I   | Analog reference voltage input           |
| 25      | ADJ          | I   | CD adjust point port                     |
| 26      | A-SHUT       | I   | A Deck reel pulse detector               |
| 27      | B-SHUT       | I   | B Deck reel pulse detector               |
| 28      | B-HALF       | I   | Half detector signal input               |
| 29      | CLK-CHECK    | I   | Connected ground                         |
| 30      | SPEC-IN      | I   | Version select signal input              |
| 31      | ADJ 2        | I   | Connected ground                         |
| 32      | DEMO-MODE    | I   | DEMO H/L select signal input             |
| 33      | AVSS         | –   | Ground                                   |
| 34      | SQ-DATA-IN   | O   | Subcode Q data clock input               |
| 35      | —            | –   | Not used                                 |
| 36      | SQ-CLK       | O   | Sub code Q data clock input              |
| 37      | SW-ON/OFF    | O   | Not used                                 |
| 38, 39  | FUNC 1, 2    | I   | Connected ground                         |
| 40      | VSS          | –   | Ground                                   |
| 41      | VOL-LAT      | O   | Not used                                 |
| 42      | PL-LAT       | O   |                                          |
| 43      | COM-DIN      | I   | Connected ground                         |
| 44      | COM-DOUT     | O   | Common serial data output                |

| Pin No. | Pin Name     | I/O | Function                                     |
|---------|--------------|-----|----------------------------------------------|
| 45      | COM-CLK      | O   | Common serial clock output                   |
| 46      | CD-POWER     | O   | CD power on signal output                    |
| 47      | CD-DATA      | O   | CD data output                               |
| 48      | CD-CLK       | O   | CD clock output                              |
| 49      | MSM-CND      | O   | Not used                                     |
| 50      | MSM-BUSY     | I   | Connected ground                             |
| 51      | MSM-LAT      | O   | Not used                                     |
| 52      | MSM-NAR      | I   |                                              |
| 53      | MSM-CH       | O   |                                              |
| 54      | INPUT-CHANGE | O   | GAIN control output                          |
| 55      | IIC-DATA     | O   | Data output for IC601                        |
| 56      | IIC-CLK      | O   | Clock output for IC601                       |
| 57      | XRST         | O   | CD reset signal output                       |
| 58      | XLT          | O   | CD latch signal output                       |
| 59      | FOUCUS-SW    | O   | Focus switching signal output                |
| 60      | TBL-L        | O   | Table motor control output                   |
| 61      | TBL-R        | O   |                                              |
| 62      | TRAY-LED     | O   | CD tray LED ON/OFF output                    |
| 63      | LOAD-OUT     | O   | Loading motor control signal output          |
| 64      | LOAD-IN      | O   |                                              |
| 65      | ST-CLK       | O   | Tuner clock output                           |
| 66      | ST-DIN       | I   | Tuner data input                             |
| 67      | ST-DOUT      | O   | Tuner data output                            |
| 68      | ST-CE        | O   | Tuner chip enable output                     |
| 69      | TUNED        | I   | Tuned detection for tuner                    |
| 70      | STEREO       | I   | Stereo detection for tuner                   |
| 71      | VSS          | –   | Ground                                       |
| 72      | ST-MUTE      | O   | Tuner mute signal output                     |
| 73      | SENS2        | I   | BD Condition signal input                    |
| 74      | SENS         | I   |                                              |
| 75      | DISC-SENS    | I   | Not used                                     |
| 76      | T-SENS       | I   | CD table detection signal input              |
| 77      | UPSW         | I   | Up SW (S201) signal input (Not used)         |
| 78      | ENC 3        | I   | Disctray address detect encoder input        |
| 79      | ENC 2        | I   |                                              |
| 80      | ENC 1        | I   |                                              |
| 81      | OUT-OPEN     | I   | Out switch signal input                      |
| 82      | CAP-H/N      | O   | Capstan motor H/N speed select signal output |
| 83      | B-TRG        | O   | Trigger motor control output                 |
| 84      | A-TRG        | O   | Trigger motor control output                 |
| 85      | TRG-LOW      | O   | Trigger motor control output                 |
| 86      | CAP-M-ON/OFF | O   | Capstan motor ON/OFF signal output           |
| 87      | PB-A/B       | O   | PB Deck A/Deck B select output               |

| Pin No. | Pin Name  | I/O | Function                                   |
|---------|-----------|-----|--------------------------------------------|
| 88      | EQ-H/N    | O   | Equalizer H/N select output                |
| 89      | BIAS      | O   | Bias ON/OFF signal output                  |
| 90      | REC-MUTE  | O   | REC mute ON/OFF selection output           |
| 91      | NR-ON/OFF | O   | NR ON/OFF signal output                    |
| 92      | R/P-PASS  | I   | REC/PB/PASS selection output               |
| 93      | TC-MUTE   | O   | TC mute ON/OFF selection output            |
| 94      | A-PLAY-SW | I   | Deck A play detect                         |
| 95      | B-PLAY-SW | I   | Deck B play detect                         |
| 96      | RELAY     | O   | REC/PB head selection output for IC602     |
| 97      | A-HALF    | I   | Deck A cassette detect                     |
| 98      | POWER     | O   | POWER ON/OFF signal output                 |
| 99      | SW-F-CON  | O   | Super woofer mode signal output (Not used) |
| 100     | STK-MUTE  | O   | Power amp ON/OFF signal output             |

**PANEL BOARD IC601 TMP87CH75F-6543 (GRAPHIC CONTROL)**

| Pin No. | Pin Name           | I/O | Function                                       |
|---------|--------------------|-----|------------------------------------------------|
| 1       | SEG-35             | O   | Fluorescent display tube segment signal output |
| 2       | V-LOAD             | –   | –30V for Fluorescent display tube              |
| 3-10    | LED1-LED8          | O   | LED driver output                              |
| 11      | VSS                | –   | Ground                                         |
| 12      | X-OUT              | O   | X'tal (8MHz)                                   |
| 13      | X-IN               | I   | X'tal (8MHz)                                   |
| 14      | RESET              | I   | Reset signal input from master control         |
| 15, 16  | LED9, LED10        | O   | LED driver output                              |
| 17      | TEST               | I   | Connected ground                               |
| 18-23   | LED11-LED16        | O   | LED driver output                              |
| 24      | VOL-A              | I   | Rotary encoder pulse input                     |
| 25      | LED 17             | O   | Not used                                       |
| 26      | JOG-A              | I   | Rotary encoder pulse input                     |
| 27      | CLOCK              | I   | Serial clock input from master control         |
| 28      | DATA               | I   | Serial data input from master control          |
| 29      | LED SELECT         | O   | LED select signal output                       |
| 30      | VDD                | –   | Power supply (+5V)                             |
| 31      | VSS                | –   | Ground                                         |
| 32      | MODEL              | I   | Connected Ground                               |
| 33-37   | KEY1-KEY5          | I   | Key input                                      |
| 38      | EWS STANDBY        | –   | Not used                                       |
| 39      | SIRCS              | I   | Remote commander signal input                  |
| 40      | VOL-B              | I   | Rotary encoder pulse input                     |
| 41      | JOG-B              | I   | Rotary encoder pulse input                     |
| 42-45   | SPEANA 1-4         | I   | Spectrum analyzer signal input                 |
| 46      | L + R              | I   | Spectrum analyzer (high frequency) input       |
| 47      | EWS SIGNAL /LED 18 | I   | Not used                                       |
| 48      | VASS               | –   | Ground                                         |
| 49      | VAREF              | I   | Analog reference voltage input                 |
| 50      | VDD                | –   | Power supply (+5V)                             |
| 51-66   | GR1-GR16           | O   | Fluorescent display tube gride signal output   |
| 67-100  | SEG1-SEG34         | O   | Fluorescent display tube segment signal output |

## SECTION 7 EXPLODED VIEWS

### NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.

- Color Indication of Appearance Parts

Example:

KNOB, BALANCE (WHITE) . . . (RED)

↑                      ↑  
 Parts Color    Cabinet's Color

- Abbreviation

AED : Northern European model

AUS : Australian

CND : Canadian

EA3 : Saudi Arabia

EA4 : Israeli

EE : East European

E2 : 120V AC Area in E model

E3 : 240V AC Area in E model

G : German

HK : Hong Kong

MX : Mexican

MY : Malaysia

SAF : South African

SP : Singapore

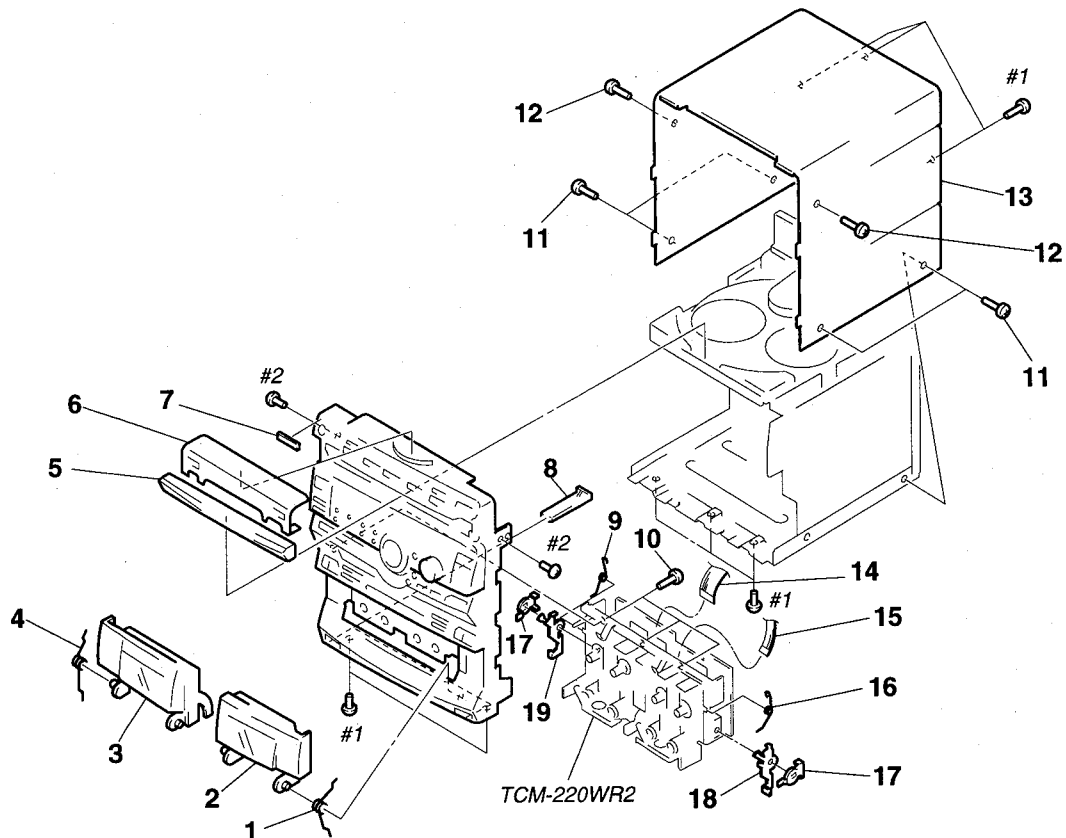
TH : Thailand

TW : Taiwan

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

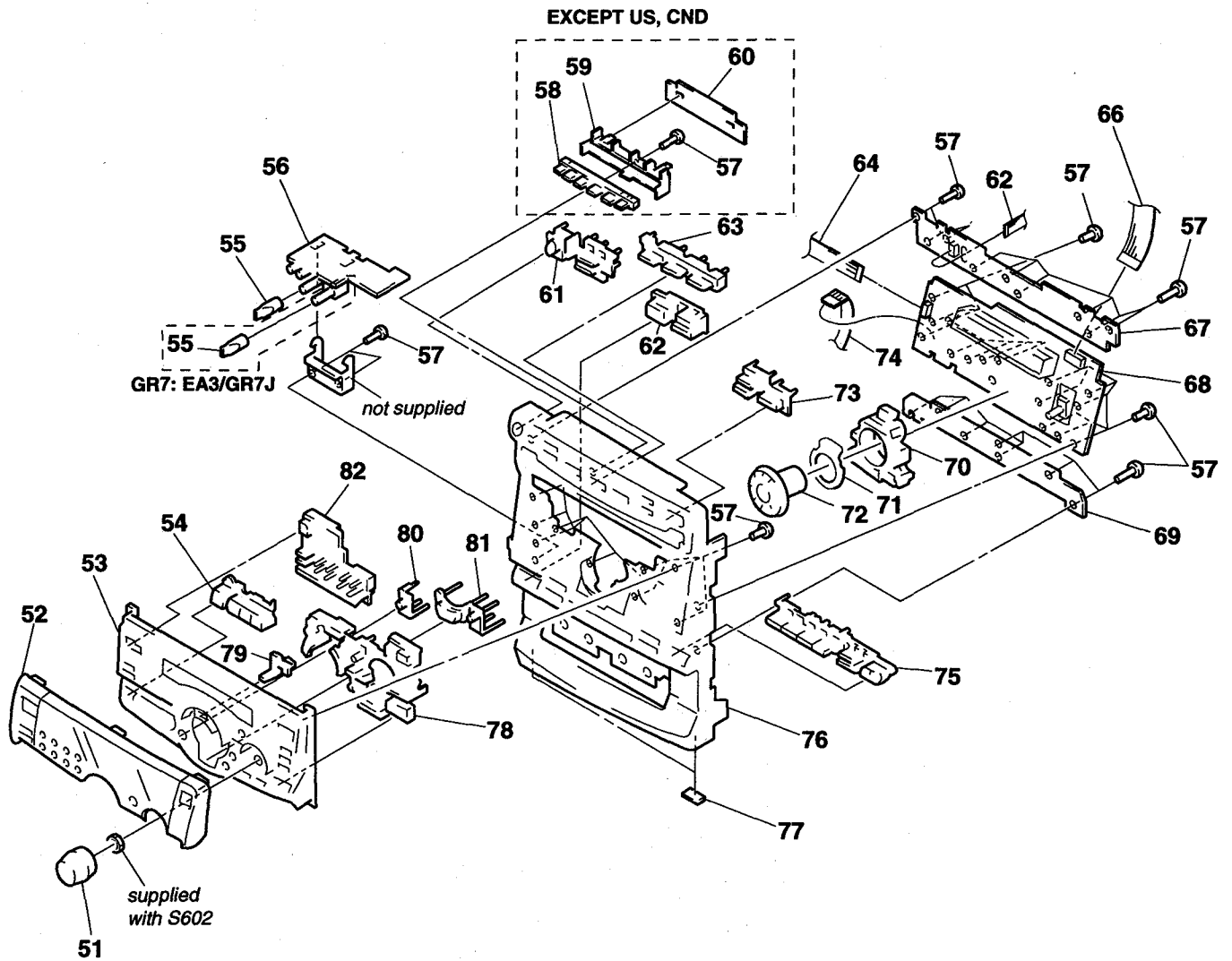
Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

### (1) CASE, MD ASS'Y SECTION



| Ref. No. | Part No.     | Description                                                                            | Remark | Ref. No. | Part No.     | Description                                                                    | Remark |
|----------|--------------|----------------------------------------------------------------------------------------|--------|----------|--------------|--------------------------------------------------------------------------------|--------|
| 1        | 4-987-937-01 | SPRING (B DECK)                                                                        |        | 8        | 4-986-843-01 | BUTTON (EJECT) (BLACK)<br>(D60/GR7: E2, MX, AUS/RX70)                          |        |
| 2        | X-4947-914-1 | LID (B) ASSY, CASSETTE (BLACK)<br>(D60/GR7: E2, MX, AUS/RX70)                          |        | 8        | 4-986-843-21 | BUTTON (EJECT) (METALLIC)<br>(GR7: E3, EA3, EA4, HK, MY, SAF, SP, TH, TW/GR7J) |        |
| 2        | X-4948-117-1 | LID (B) ASSY, CASSETTE (METALLIC)<br>(GR7: E3, EA3, EA4, HK, MY, SAF, SP, TH, TW/GR7J) |        | 9        | 4-987-938-01 | SPRING (OPEN A)                                                                |        |
| 3        | X-4947-913-1 | LID (A) ASSY, CASSETTE (BLACK)<br>(D60/GR7: E2, MX, AUS/RX70)                          |        | 10       | 4-951-620-01 | SCREW (2.6X8), +BVTP                                                           |        |
| 3        | X-4948-116-1 | LID (A) ASSY, CASSETTE (METALLIC)<br>(GR7: E3, EA3, EA4, HK, MY, SAF, SP, TH, TW/GR7J) |        | 11       | 3-363-099-01 | SCREW (CASE 3 TP2) (3X8)                                                       |        |
| 4        | 4-987-936-01 | SPRING (A DECK)                                                                        |        | 12       | 3-363-099-41 | SCREW (CASE 3 TP2) (3X10)                                                      |        |
| 5        | 4-986-858-01 | PANEL, LOADING (BLACK) (RX70)                                                          |        | * 13     | 4-986-851-11 | CASE (BLACK) (D60/GR7: E2, MX, AUS/RX70)                                       |        |
| 5        | 4-986-858-11 | PANEL, LOADING (BLACK) (GR7: E2, MX, AUS)                                              |        | * 13     | 4-988-767-11 | CASE (METALLIC)<br>(GR7: E3, EA3, EA4, HK, MY, SAF, SP, TH, TW/GR7J)           |        |
| 5        | 4-986-858-71 | PANEL, LOADING (METALLIC)<br>(GR7: E3, EA3, EA4, HK, MY, SAF, SP, TH, TW/GR7J)         |        | 14       | 1-773-160-11 | WIRE (FLAT TYPE) (21 CORE)                                                     |        |
| 5        | 4-986-858-91 | PANEL, LOADING (BLACK) (D60)                                                           |        | 15       | 1-769-947-11 | WIRE (FLAT TYPE) (11 CORE)                                                     |        |
| 6        | 4-986-859-01 | WINDOW (CD)                                                                            |        | 16       | 4-987-939-01 | SPRING (OPEN B)                                                                |        |
| 7        | 4-962-708-11 | EMBLEM (4-A), SONY                                                                     |        | 17       | 3-354-957-01 | JOINT (LOCK LEVER)                                                             |        |
|          |              |                                                                                        |        | * 18     | 3-354-954-01 | LEVER (LOCK LEVER R)                                                           |        |
|          |              |                                                                                        |        | * 19     | 3-354-953-01 | LEVER (LOCK LEVER L)                                                           |        |

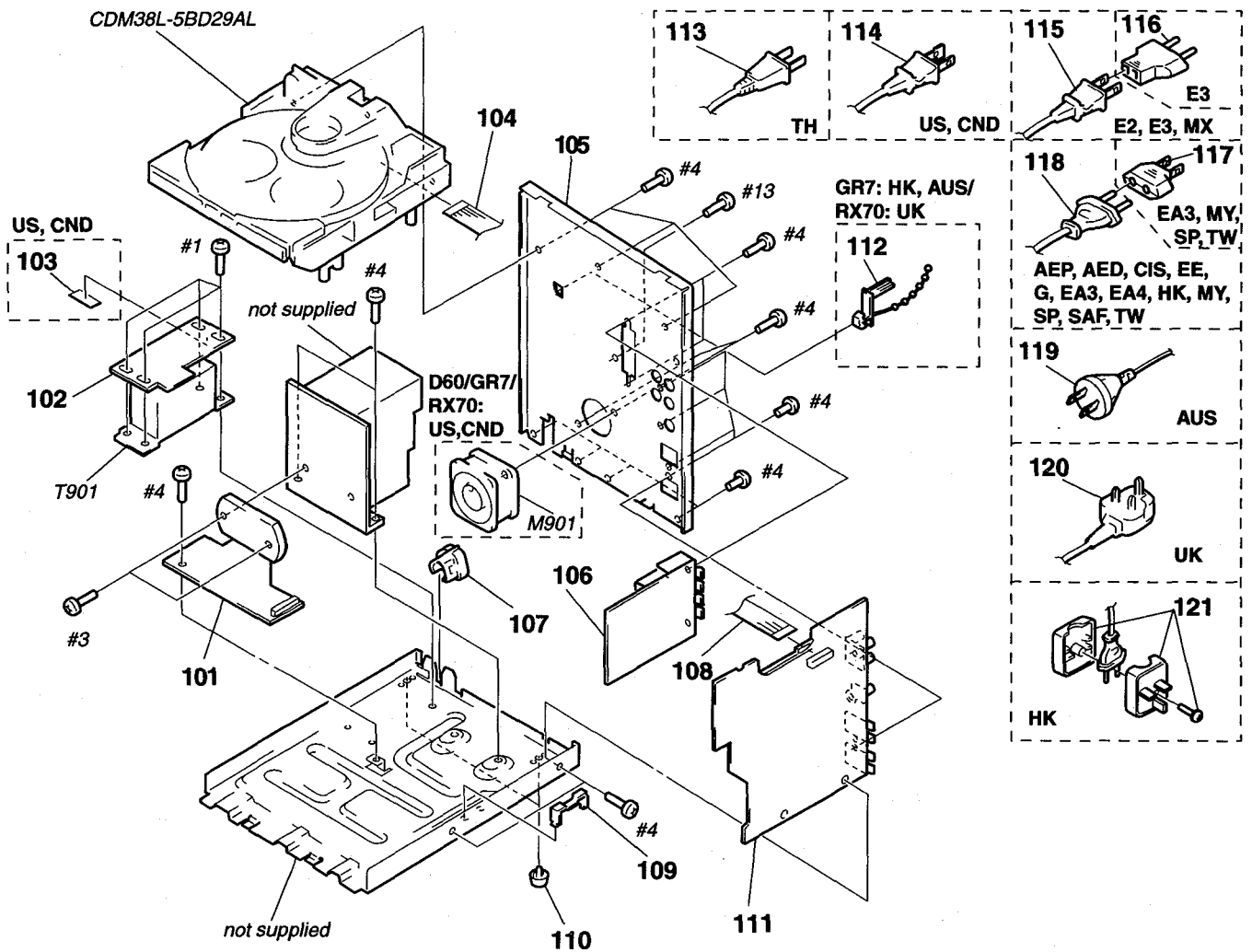
## (2) FRONT PANEL SECTION





| Ref. No. | Part No.     | Description                                                                       | Remark | Ref. No. | Part No.     | Description                                                                        | Remark |
|----------|--------------|-----------------------------------------------------------------------------------|--------|----------|--------------|------------------------------------------------------------------------------------|--------|
| 51       | 4-986-877-01 | KNOB (VOL) (BLACK)<br>(D60/GR7: E2, MX, AUS/RX70)                                 |        | 64       | 1-777-936-11 | WIRE (FLAT TYPE) (5 CORE) (EXCEPT US, CND)                                         |        |
| 51       | 4-986-877-21 | KNOB (VOL) (METALLIC)<br>(GR7: E3, EA3, EA4, HK, MY, SAF, SP, TH, TW/GR7J)        |        | 66       | 1-773-051-11 | WIRE (FLAT TYPE) (17 CORE)                                                         |        |
| 52       | 4-986-869-01 | WINDOW (STR) (BLACK)<br>(D60/GR7: E2, MX, AUS/RX70)                               |        | * 67     | 1-664-002-11 | CD SW BOARD                                                                        |        |
| 52       | 4-986-869-61 | WINDOW (STR) (METALLIC)<br>(GR7: E3, EA3, EA4, HK, MY, SAF, SP, TH, TW/GR7J)      |        | * 68     | A-4392-339-A | PANEL BOARD, COMPLETE<br>(D60/RX70: US, CND)                                       |        |
| 53       | 4-986-866-01 | PANEL, SUB (BLACK)<br>(D60/GR7: E2, MX, AUS/RX70)                                 |        | * 68     | A-4392-340-A | PANEL BOARD, COMPLETE<br>(RX70: AEP, AED, CIS, EE, G)                              |        |
| 53       | 4-986-866-21 | PANEL, SUB (METALLIC)<br>(GR7: E3, EA3, EA4, HK, MY, SAF, SP, TH, TW/GR7J)        |        | * 68     | A-4392-341-A | PANEL BOARD, COMPLETE<br>(GR7: E2, E3, EA3, HK, MX, MY, SP, TW, AUS/GR7J)          |        |
| 54       | X-4947-910-1 | BUTTON (DJ) ASSY (BLACK)<br>(D60/GR7: E2, MX, AUS/RX70)                           |        | * 68     | A-4392-846-A | PANEL BOARD, COMPLETE (GR7: EA4, SAF, TH)                                          |        |
| 54       | X-4948-111-1 | BUTTON (DJ) ASSY (METALLIC)<br>(GR7: E3, EA3, EA4, HK, MY, SAF, SP, TH, TW/GR7J)  |        | * 69     | A-4392-350-A | TC SW BOARD, COMPLETE<br>(EXCEPT GR7: EA4, SAF, TH)                                |        |
| 55       | 4-986-893-01 | KNOB (MICROPHONE) (BLACK)<br>(D60/GR7: E2, MX, AUS/RX70)                          |        | * 69     | A-4392-850-A | TC SW BOARD, COMPLETE (GR7: EA4, SAF, TH)                                          |        |
| 55       | 4-986-893-21 | KNOB (MICROPHONE) (METALLIC)<br>(GR7: E3, EA3, EA4, HK, MY, SAF, SP, TH, TW/GR7J) |        | * 70     | 4-986-880-01 | HOLDER (JOG)                                                                       |        |
| * 56     | A-4392-351-A | HP/MIC BOARD, COMPLETE<br>(EXCEPT GR7: EA3, EA4, SAF, TH/GR7J)                    |        | 71       | 4-986-881-01 | JOG (PLATE)                                                                        |        |
| * 56     | A-4392-851-A | HP/MIC BOARD, COMPLETE<br>(GR7: EA4, SAF, TH)                                     |        | 72       | X-4947-909-1 | KNOB (JOG-T5) ASSY (BLACK)<br>(D60/GR7: E2, MX, AUS/RX70)                          |        |
| * 56     | A-4392-857-A | HP/MIC BOARD, COMPLETE (GR7: EA3/GR7J)                                            |        | 72       | X-4948-114-1 | KNOB (JOG-T5) ASSY (METALLIC)<br>(GR7: E3, EA3, EA4, HK, MY, SAF, SP, TH, TW/GR7J) |        |
| 57       | 4-951-620-01 | SCREW (2.6X8), +BVTP                                                              |        | 73       | 4-986-861-01 | BUTTON (PLAY) (BLACK)<br>(D60/GR7: E2, MX, AUS/RX70)                               |        |
| 58       | 4-986-863-01 | INDICATOR (CD) (EXCEPT US, CND)                                                   |        | 73       | 4-986-861-21 | BUTTON (PLAY) (METALLIC)<br>(GR7: E3, EA3, EA4, HK, MY, SAF, SP, TH, TW/GR7J)      |        |
| * 59     | 4-986-865-01 | HOLDER (LED) (EXCEPT US, CND)                                                     |        | 74       | 1-769-909-11 | WIRE (FLAT TYPE) (9 CORE)                                                          |        |
| * 60     | 1-664-007-11 | DECO BOARD<br>(GR7/GR7J/RX70: AEP, AED, CIS, EE, G, UK)                           |        | 75       | 4-986-902-01 | BUTTON (B DECK) (BLACK)<br>(D60/GR7: E2, MX, AUS/RX70)                             |        |
| 61       | 4-986-860-01 | BUTTON (POWER) (BLACK)<br>(D60/GR7: E2, MX, AUS/RX70)                             |        | 75       | 4-986-902-21 | BUTTON (B DECK) (METALLIC)<br>(GR7: E3, EA3, EA4, HK, MY, SAF, SP, TH, TW/GR7J)    |        |
| 61       | 4-986-860-21 | BUTTON (POWER) (METALLIC)<br>(GR7: E3, EA3, EA4, HK, MY, SAF, SP, TH, TW/GR7J)    |        | 76       | 4-986-856-01 | PANEL, FRONT (BLACK)<br>(D60/GR7: E2, MX, AUS/RX70)                                |        |
| 62       | 4-986-901-01 | BUTTON (A DECK) (BLACK)<br>(D60/GR7: E2, MX, AUS/RX70)                            |        | 76       | X-4948-104-1 | PANEL ASSY, FRONT (METALLIC)<br>(GR7: E3, EA3, EA4, HK, MY, SAF, SP, TH, TW/GR7J)  |        |
| 62       | 4-986-901-21 | BUTTON (A DECK) (METALLIC)<br>(GR7: E3, EA3, EA4, HK, MY, SAF, SP, TH, TW/GR7J)   |        | 77       | 4-930-336-61 | FOOT (FELT)                                                                        |        |
| 63       | 4-986-862-01 | BUTTON (CD)                                                                       |        | 78       | X-4947-911-1 | BUTTON (T/B) ASSY (BLACK)<br>(D60/GR7: E2, MX, AUS/RX70)                           |        |
| 64       | 1-777-869-11 | WIRE (FLAT TYPE) (10 CORE)<br>(EXCEPT US, CND)                                    |        | 78       | X-4948-107-1 | BUTTON (T/B) ASSY (METALLIC)<br>(GR7: E3, EA3, EA4, HK, MY, SAF, SP, TH, TW/GR7J)  |        |
| 64       | 1-777-871-11 | WIRE (FLAT TYPE) (8 CORE) (US, CND)                                               |        | 79       | 4-986-883-01 | INDICATOR (JOG)                                                                    |        |
|          |              |                                                                                   |        | 80       | 4-986-894-01 | BUTTON (GROOVE)                                                                    |        |
|          |              |                                                                                   |        | 81       | X-4947-912-1 | BUTTON (E/S) ASSY (BLACK)<br>(D60/GR7: E2, MX, AUS/RX70)                           |        |
|          |              |                                                                                   |        | 81       | X-4948-110-1 | BUTTON (E/S) ASSY (METALLIC)<br>(GR7: E3, EA3, EA4, HK, MY, SAF, SP, TH, TW/GR7J)  |        |
|          |              |                                                                                   |        | 82       | 4-986-872-01 | BUTTON (TIMER) (BLACK)<br>(D60/GR7: E2, MX, AUS/RX70)                              |        |
|          |              |                                                                                   |        | 82       | 4-986-872-31 | BUTTON (TIMER) (METALLIC)<br>(GR7: E3, EA3, EA4, HK, MY, SAF, SP, TH, TW/GR7J)     |        |

### (3) CHASSIS SECTION

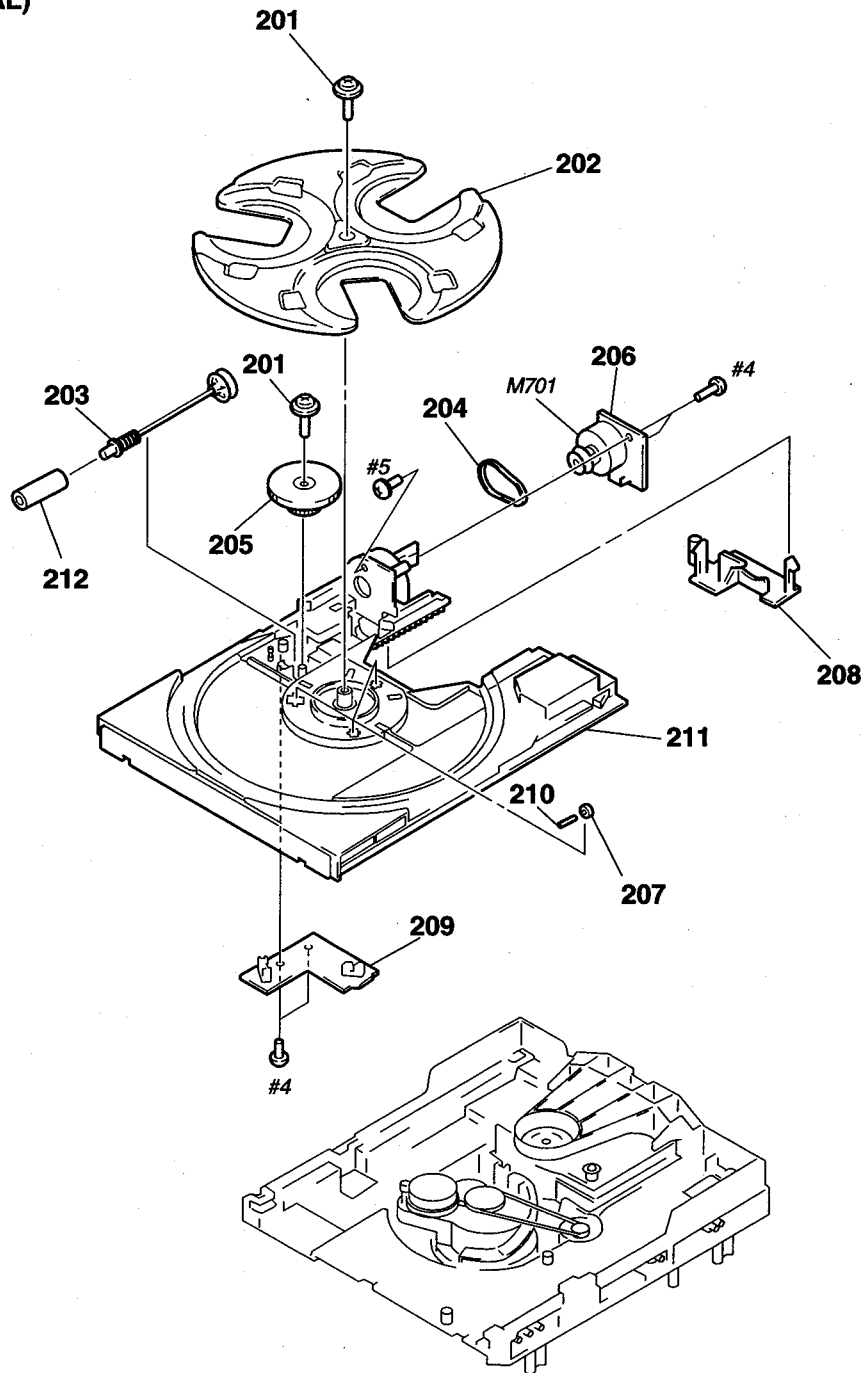


| Ref. No. | Part No.     | Description                                                                   | Remark | Ref. No. | Part No.     | Description                                                                                      | Remark |
|----------|--------------|-------------------------------------------------------------------------------|--------|----------|--------------|--------------------------------------------------------------------------------------------------|--------|
| * 101    | A-4392-330-A | POWER AMP BOARD, COMPLETE<br>(D60/RX70: US, CND)                              |        | 107      | 3-703-571-11 | BUSHING (S) (4516), CORD<br>(GR7: E2, E3, MX, TH)                                                |        |
| * 101    | A-4392-331-A | POWER AMP BOARD, COMPLETE<br>(RX70: AEP, AED, CIS, EE, G, UK)                 |        | 108      | 1-751-086-11 | WIRE (FLAT TYPE) (13 CORE)<br>(D60/GR7: E2, EA4, MX, TH, AUS/RX70: US, CND)                      |        |
| * 101    | A-4392-332-A | POWER AMP BOARD, COMPLETE<br>(GR7: E2, E3, EA3, HK, MX, MY, SP, TW, AUS/GR7J) |        | 108      | 1-751-688-11 | WIRE (FLAT TYPE) (13 CORE) (GR7: E2)                                                             |        |
| * 101    | A-4392-843-A | POWER AMP BOARD, COMPLETE<br>(GR7: EA4, SAF, TH)                              |        | 108      | 1-773-012-11 | WIRE (FLAT TYPE) (15 CORE) (GR7: E3, EA3, HK<br>SAF, SP, TW/GR7J/RX70: AEP, AED, CIS, EE, G, UK) |        |
| * 102    | 1-664-004-11 | TRANS BOARD                                                                   |        | * 109    | 4-988-533-01 | HOLDER, PCB (EXCEPT GR7: EA4, SAF, TH)                                                           |        |
| 103      | 3-701-946-27 | LABEL, FUSE RATING (US, CND)                                                  |        | 110      | 4-965-822-01 | FOOT                                                                                             |        |
| 104      | 1-777-870-11 | WIRE (FLAT TYPE) (19 CORE)                                                    |        | * 111    | A-4392-315-A | MAIN BOARD, COMPLETE (RX70: US)                                                                  |        |
| * 105    | 4-986-844-01 | PANEL, BACK (RX70: US)                                                        |        | * 111    | A-4392-316-A | MAIN BOARD, COMPLETE<br>(RX70: AEP, AED, G, UK)                                                  |        |
| * 105    | 4-986-844-11 | PANEL, BACK (RX70: CND)                                                       |        | * 111    | A-4392-317-A | MAIN BOARD, COMPLETE<br>(GR7: E3, EA3, HK, MY, SP, TW/GR7J)                                      |        |
| * 105    | 4-986-844-21 | PANEL, BACK (RX70: AEP, AED, G, UK)                                           |        | * 111    | A-4392-711-A | MAIN BOARD, COMPLETE (RX70: CND)                                                                 |        |
| * 105    | 4-986-844-31 | PANEL, BACK (RX70: CIS, EE)                                                   |        | * 111    | A-4392-712-A | MAIN BOARD, COMPLETE (RX70: CIS, EE)                                                             |        |
| * 105    | 4-986-844-71 | PANEL, BACK (D60)                                                             |        | * 111    | A-4392-713-A | MAIN BOARD, COMPLETE (GR7: E2, MX)                                                               |        |
| * 105    | 4-988-019-01 | PANEL, BACK (GR7: E3)                                                         |        | * 111    | A-4392-714-A | MAIN BOARD, COMPLETE (GR7: AUS)                                                                  |        |
| * 105    | 4-988-019-11 | PANEL, BACK (GR7: E2)                                                         |        | * 111    | A-4392-806-A | MAIN BOARD, COMPLETE (D60)                                                                       |        |
| * 105    | 4-988-019-21 | PANEL, BACK (GR7: MY, SP)                                                     |        | * 111    | A-4392-837-A | MAIN BOARD, COMPLETE (GR7: EA4, TH)                                                              |        |
| * 105    | 4-988-019-31 | PANEL, BACK (GR7: EA3, TW/GR7J)                                               |        | * 111    | A-4392-854-A | MAIN BOARD, COMPLETE (GR7: SAF)                                                                  |        |
| * 105    | 4-988-019-41 | PANEL, BACK (GR7: HK)                                                         |        | 112      | 4-956-370-12 | BAND, PLUG FIXED (GR7: HK, AUS/RX70: UK)                                                         |        |
| * 105    | 4-988-019-51 | PANEL, BACK (GR7: AUS)                                                        |        | △113     | 1-751-326-31 | CORD, POWER (TH)                                                                                 |        |
| * 105    | 4-988-019-61 | PANEL, BACK (GR7: MX)                                                         |        | △114     | 1-690-609-21 | CORD, POWER (US, CND)                                                                            |        |
| * 105    | 4-988-019-71 | PANEL, BACK (GR7: EA4, SAF, TH)                                               |        | △115     | 1-575-653-11 | CORD, POWER (E2, E3, MX)                                                                         |        |
| * 106    | A-4303-574-A | TCB BOARD, COMPLETE<br>(RX70: AEP, AED, G, UK)                                |        | △116     | 1-569-007-11 | ADAPTOR, CONVERSION 2P (E3)                                                                      |        |
| 106      | 1-233-514-11 | ENCAPSULATED COMPONENT (RX70: CIS, EE)                                        |        | △117     | 1-569-008-11 | ADAPTOR, CONVERSION 2P (EA3, MY, SP, TW)                                                         |        |
| 106      | 1-233-544-11 | ENCAPSULATED COMPONENT<br>(D60/RX70: US, CND)                                 |        | △118     | 1-575-651-11 | CORD, POWER (EA3, EA4, HK, MY, SAF, SP, TW)                                                      |        |
| 106      | 1-233-545-11 | ENCAPSULATED COMPONENT<br>(GR7: E2, EA4, MX, TH, AUS)                         |        | △118     | 1-575-651-21 | CORD, POWER (AEP, AED, CIS, EE, G)                                                               |        |
| 106      | 1-233-546-11 | ENCAPSULATED COMPONENT<br>(GR7: E3, EA3, HK, MY, SAF, SP, TW/GR7J)            |        | △119     | 1-690-608-11 | CORD, POWER (AUS)                                                                                |        |
| * 107    | 3-703-244-00 | BUSHING (2104), CORD<br>(EXCEPT GR7: E2, E3, MX, TH)                          |        | △120     | 1-751-529-11 | CORD, POWER (UK)                                                                                 |        |
|          |              |                                                                               |        | △121     | 1-770-019-11 | ADAPTOR, CONVERSION PLUG 3P (HK)                                                                 |        |
|          |              |                                                                               |        | M901     | 1-698-792-11 | FAN, DC (D60/GR7/GR7J/RX70: US, CND)                                                             |        |
|          |              |                                                                               |        | △T901    | 1-429-997-11 | TRANSFORMER, POWER (D60/RX70: US)                                                                |        |
|          |              |                                                                               |        | △T901    | 1-429-998-11 | TRANSFORMER, POWER<br>(RX70: AEP, AED, CIS, EE, G, UK)                                           |        |
|          |              |                                                                               |        | △T901    | 1-429-999-11 | TRANSFORMER, POWER (GR7/GR7J)                                                                    |        |
|          |              |                                                                               |        | △T901    | 1-431-148-11 | TRANSFORMER, POWER (RX70: CND)                                                                   |        |

The components identified by  
mark △ or dotted line with  
mark △ are critical for safety.  
Replace only with part number  
specified.

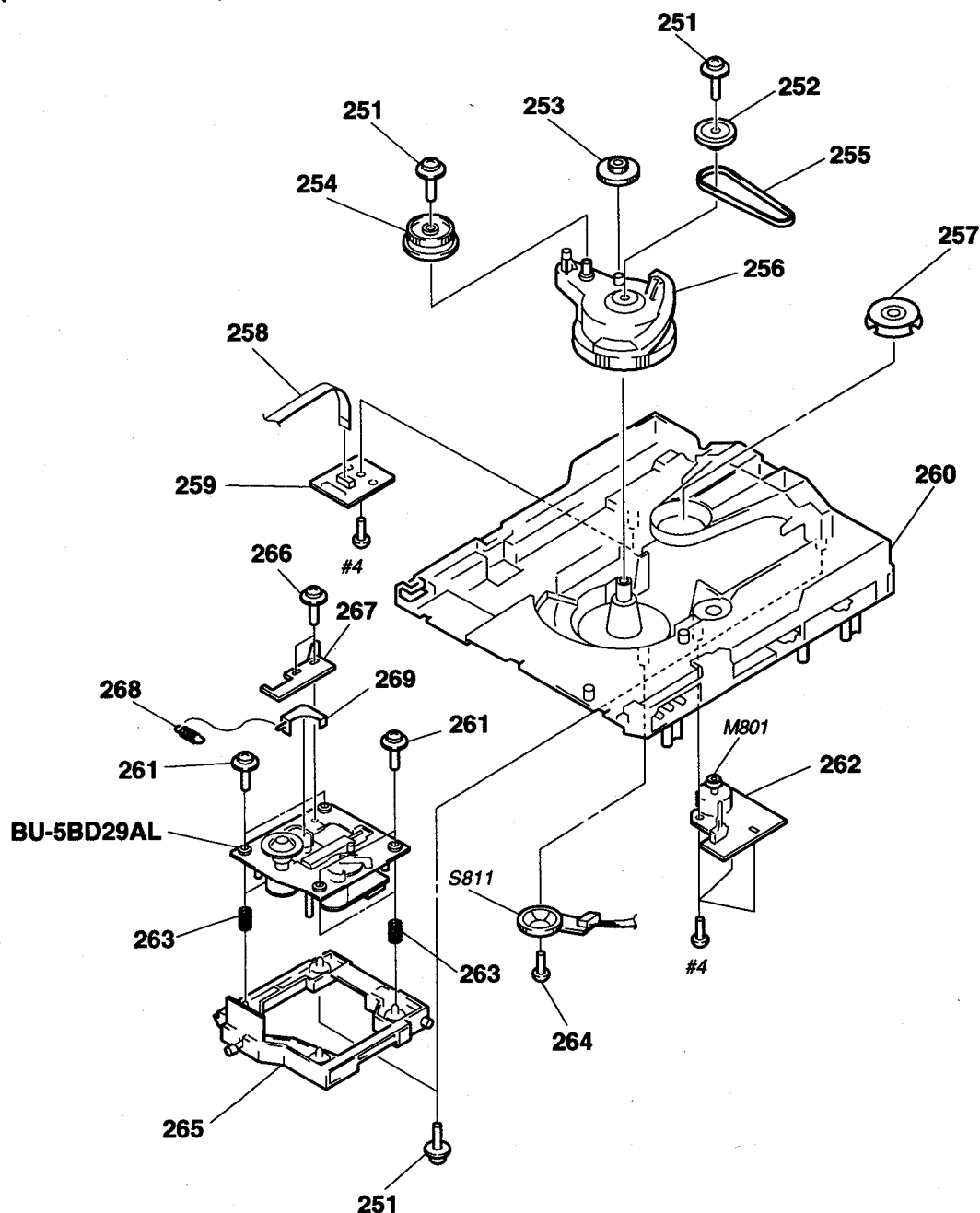
Les composants identifiés par une  
marque △ sont critiques pour la  
sécurité.  
Ne les remplacer que par une pièce  
portant le numéro spécifié.

(4) CD MECHANISM DECK SECTION-1  
(CDM38L-58D29AL)



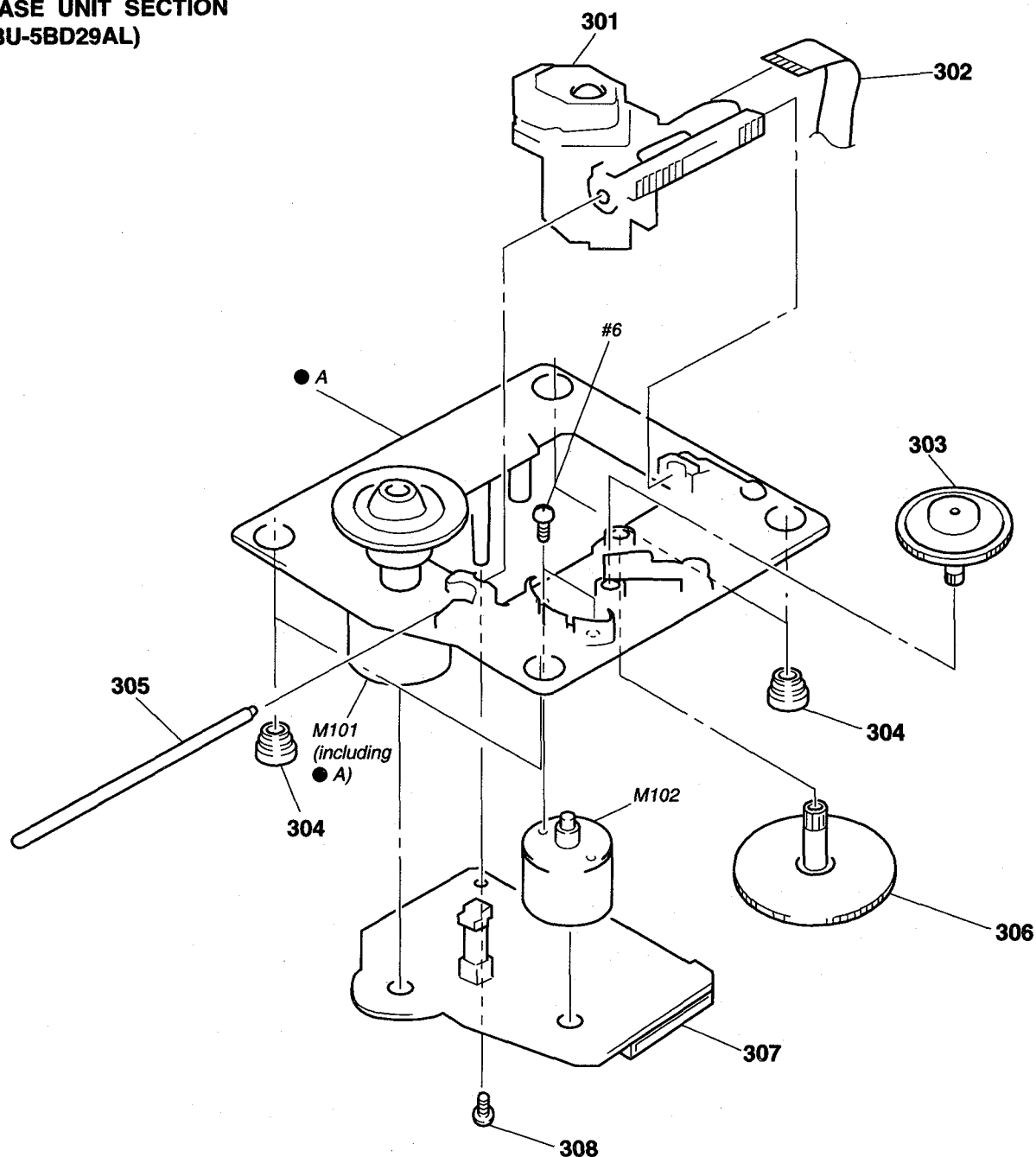
| Ref. No. | Part No.     | Description        | Remark | Ref. No. | Part No.     | Description       | Remark |
|----------|--------------|--------------------|--------|----------|--------------|-------------------|--------|
| 201      | 4-917-583-21 | BRACKET, YOKE      |        | 208      | 4-977-941-01 | BEARING (WORM)    |        |
| 202      | 4-977-945-01 | TRAY (TURN)        |        | * 209    | 1-658-576-11 | SENSOR BOARD      |        |
| 203      | X-4946-665-1 | SHAFT ASSY, WORM   |        | 210      | 4-934-376-01 | SHAFT (ROLLER)    |        |
| 204      | 4-977-943-01 | BELT (TURN) (1.2)  |        | 211      | 4-977-944-01 | TRAY (SLIDE)      |        |
| 205      | 4-977-956-01 | WHEEL, WORM        |        | 212      | 4-981-187-01 | COLLAR (WORM)     |        |
| * 206    | 1-658-577-11 | MOTOR (TURN) BOARD |        | M701     | A-4672-004-A | MOTOR ASSY (TURN) |        |
| 207      | X-4924-457-1 | ROLLER ASSY        |        |          |              |                   |        |

(5) CD MECHANISM DECK SECTION-2  
(CDM38L-58D29AL)



| Ref. No. | Part No.     | Description                  | Remark | Ref. No. | Part No.     | Description                            | Remark |
|----------|--------------|------------------------------|--------|----------|--------------|----------------------------------------|--------|
| 251      | 4-917-583-71 | BRACKET, YOKE                |        | * 262    | 1-658-578-11 | MOTOR (SLIDE) BOARD                    |        |
| 252      | 4-977-954-01 | PULLEY (SL)                  |        | 263      | 4-982-447-01 | SPRING (BU), COMPRESSION               |        |
| 253      | 4-977-953-01 | GEAR (SL-A)                  |        | 264      | 4-951-620-41 | SCREW (2.6), +BVTP                     |        |
| 254      | 4-977-955-01 | GEAR (SL-B)                  |        | * 265    | X-4946-666-1 | HOLDER (BU) ASSY                       |        |
| 255      | 4-977-942-01 | BELT (SL) (1.4)              |        | 266      | 4-989-494-01 | SCREW (SLIDER), STEP                   |        |
| 256      | X-4946-667-1 | CAM ASSY, BU                 |        | 267      | 4-989-492-11 | SLIDER (38)                            |        |
| 257      | 1-452-538-11 | MAGNET                       |        | 268      | 4-989-819-01 | SPRING, TENSION                        |        |
| 258      | 1-776-042-11 | WIRE (FLAT TYPE) (8 CORE)    |        | 269      | 4-989-491-11 | COVER, LENS                            |        |
| * 259    | 1-658-575-11 | CONNECTOR BOARD              |        | M801     | A-4672-004-A | MOTOR ASSY (SLED)                      |        |
| * 260    | X-4946-668-1 | CHASSIS (CDM) ASSY           |        | S811     | 1-473-335-11 | ENCODER, ROTARY (BU, TRAY ADDRESS DET) |        |
| 261      | 4-985-672-01 | SCREW (+PTPWHM2.6), FLOATING |        |          |              |                                        |        |

(6) BASE UNIT SECTION  
(BU-5BD29AL)



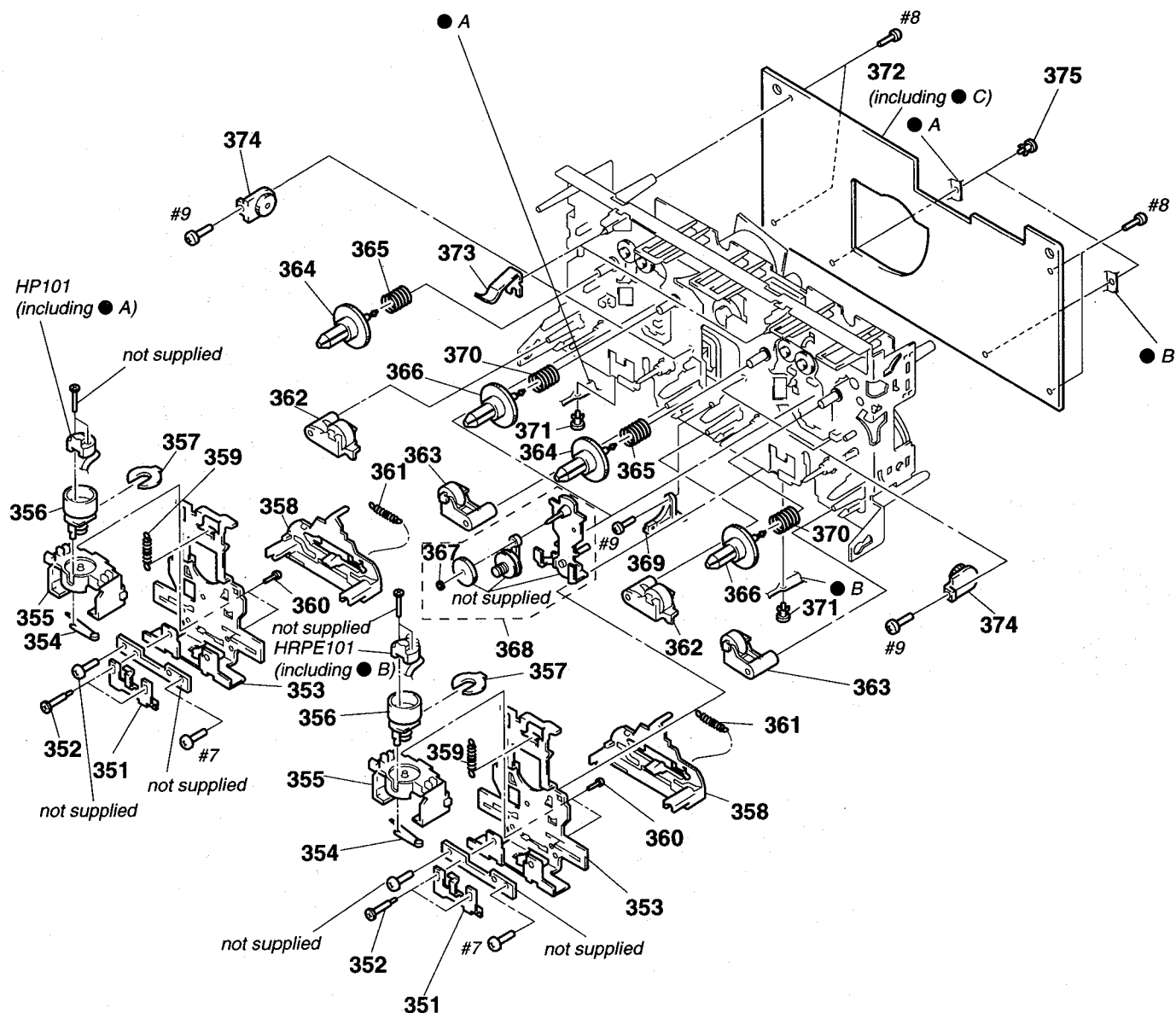
| Ref. No. | Part No.     | Description                   |
|----------|--------------|-------------------------------|
| △ 301    | 8-820-020-01 | OPTICAL PICK-UP KSS-213D/Q-NP |
| 302      | 1-769-069-11 | WIRE (FLAT TYPE) (16 CORE)    |
| 303      | 4-917-567-01 | GEAR (M)                      |
| 304      | 4-951-940-01 | INSULATOR (BU)                |
| 305      | 4-917-565-01 | SHAFT, SLED                   |

| Ref. No. | Part No.     | Description          |
|----------|--------------|----------------------|
| 306      | 4-917-564-01 | GEAR (P), FLATNESS   |
| * 307    | A-4699-515-A | BD BOARD, COMPLETE   |
| 308      | 4-951-620-01 | SCREW (2.6X8), +BVTP |
| M101     | X-4917-523-4 | MOTOR ASSY SPINDLE   |
| M102     | X-4917-504-1 | MOTOR ASSY SLED      |

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

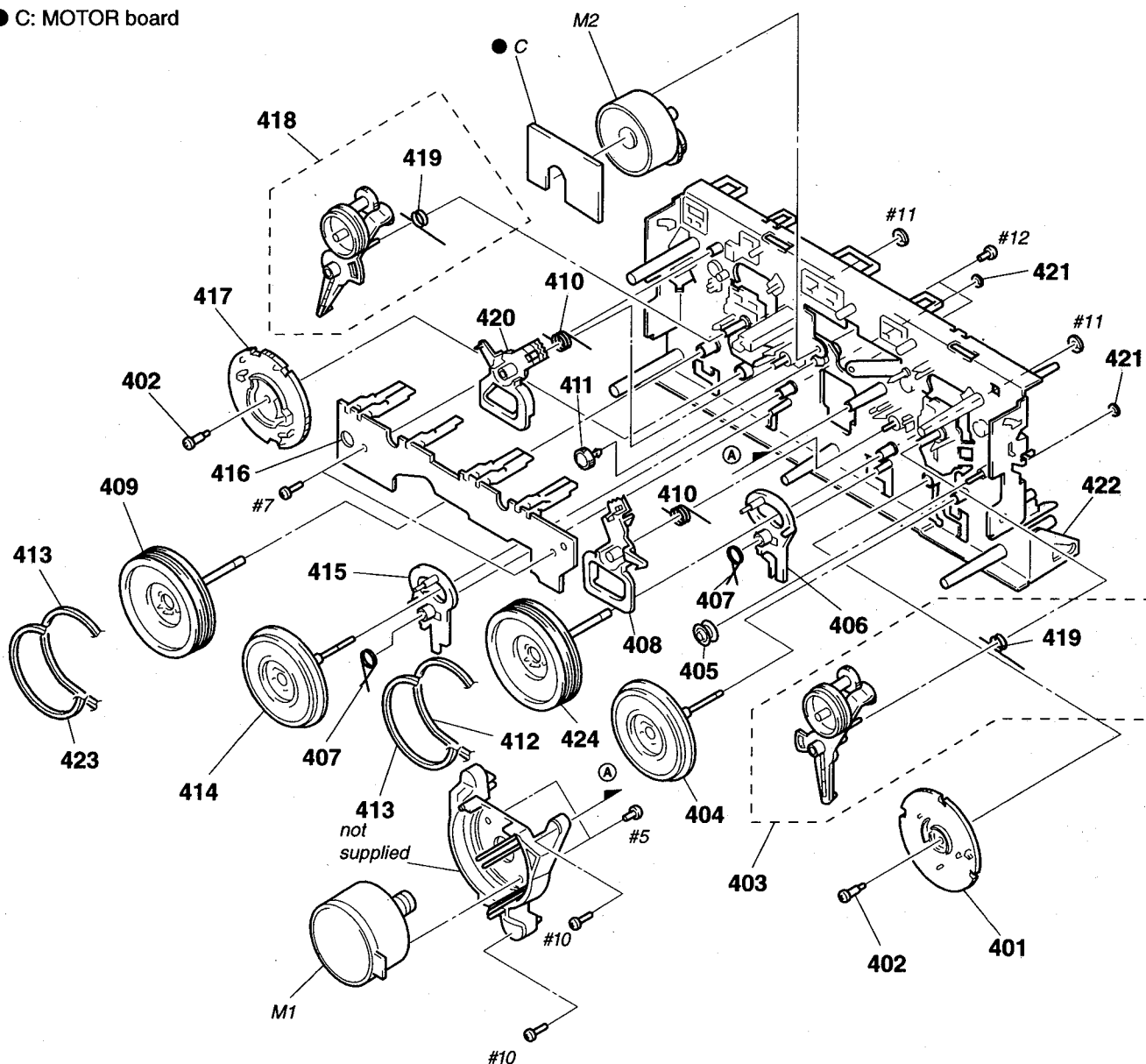
(7) TAPE MECHANISM DECK SECTION-1  
(TCM-220WR2)



| Ref. No. | Part No.     | Description                | Remark | Ref. No. | Part No.     | Description                            | Remark |
|----------|--------------|----------------------------|--------|----------|--------------|----------------------------------------|--------|
| 351      | 3-908-560-01 | SPRING, AZIMUTH ADJUSTMENT |        | 365      | 3-917-141-01 | SPRING, COMPRESSION                    |        |
| 352      | 3-919-684-01 | SCREW, AZIMUTH ADJUSTMENT  |        | 366      | X-3371-305-1 | REEL (T) ASSY                          |        |
| 353      | X-3373-113-1 | SLIDER (HEAD) ASSY         |        | 367      | 3-669-465-01 | WASHER (1.5), STOPPER                  |        |
| 354      | 3-908-556-01 | SPRING, HEAD TOGGLE        |        | 368      | X-3370-173-1 | TU ASSY                                |        |
| 355      | 3-908-558-02 | FITTING BLOCK, HEAD        |        | * 369    | 4-980-439-01 | FULCRUM, HOLDER                        |        |
| 356      | 3-908-557-02 | ROTARY BLOCK, HEAD         |        | 370      | 3-917-142-01 | SPRING, COMPRESSION                    |        |
| * 357    | 3-908-559-01 | STOPPER, AZIMUTH           |        | 371      | 3-911-116-21 | RIVET, PUSH                            |        |
| 358      | 3-908-555-01 | SLIDER (REV SLIDER)        |        | * 372    | A-2007-131-A | AUDIO BOARD, COMPLETE                  |        |
| 359      | 3-917-143-11 | SPRING, TENSION            |        | 373      | 3-930-972-01 | DETENT, HALF                           |        |
| 360      | 3-388-848-01 | SCREW (P2X6) (B TIGHT)     |        | 374      | 3-354-963-01 | DAMPER                                 |        |
| 361      | 3-939-371-01 | SPRING (1), TENSION        |        | 375      | 3-911-116-11 | RIVET, PUSH                            |        |
| 362      | X-3369-909-1 | PINCH LEVER (REV) ASSY     |        | HP101    | 1-500-093-11 | HEAD, MAGNETIC (PLAYBACK) (DECK A)     |        |
| 363      | X-3369-908-1 | PINCH LEVER (FWD) ASSY     |        | HRPE101  | 1-500-094-11 | HEAD, MAGNETIC (REC/PB/ERASE) (DECK B) |        |
| 364      | 3-908-613-01 | GEAR (S), REEL             |        |          |              |                                        |        |

# (8) TAPE MECHANISM DECK SECTION-2 (TCM-220WR2)

● C: MOTOR board



| Ref. No. | Part No.     | Description                 | Remark | Ref. No. | Part No.     | Description              | Remark |
|----------|--------------|-----------------------------|--------|----------|--------------|--------------------------|--------|
| 401      | 3-908-597-01 | CAM (A)                     |        | 414      | X-3370-171-1 | FLYWHEEL (BR) ASSY       |        |
| 402      | 3-908-608-11 | SCREW, STEP                 |        | 415      | 3-908-600-01 | LEVER (REV-B)            |        |
| 403      | X-3372-930-1 | ARM (A) ASSY, FR            |        | * 416    | 1-650-669-11 | LEAF SWITCH BOARD        |        |
| 404      | X-3370-169-1 | FLYWHEEL (AR) ASSY          |        | 417      | 3-908-598-01 | CAM (B)                  |        |
| 405      | 3-928-047-01 | PULLEY, TENSION             |        | 418      | X-3372-931-1 | ARM (B) ASSY, FR         |        |
| 406      | 3-908-599-01 | LEVER (REV-A)               |        | 419      | 3-914-111-01 | SPRING (FR), TORSION     |        |
| 407      | 3-908-601-01 | SPRING (REV LEVER), TORSION |        | 420      | 3-908-604-01 | LEVER (TRIGGER B)        |        |
| 408      | 3-908-603-01 | LEVER (TRIGGER A)           |        | 421      | 3-911-115-01 | WASHER, STOPPER          |        |
| 409      | X-3367-593-1 | FLYWHEEL (BF) ASSY          |        | 422      | X-3371-441-1 | CHASSIS ASSY, MECHANICAL |        |
| 410      | 3-908-605-01 | SPRING (TRIGGER), TORSION   |        | 423      | 3-917-176-11 | BELT (B)                 |        |
| 411      | 3-908-609-01 | GEAR, TRIGGER               |        | 424      | X-3370-172-1 | FLYWHEEL (AF) ASSY       |        |
| 412      | 3-913-845-11 | BELT (A)                    |        | M1       | X-3371-223-1 | MOTOR ASSY, CAPSTAN      |        |
| 413      | 3-913-846-11 | BELT (FR)                   |        | M2       | A-2004-410-A | MOTOR ASSY, DC (TRIGGER) |        |



# SECTION 8 ELECTRICAL PARTS LIST

**AUDIO**

## NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.

- -XX and -X mean standardized parts, so they may have some difference from the original one.

## RESISTORS

All resistors are in ohms.

METAL: Metal-film resistor.

METAL OXIDE: Metal oxide-film resistor.

F: nonflammable

## Abbreviation

AED : Northern European model

AUS : Australian

CND : Canadian

EA3 : Saudi Arabia

EA4 : Israeli

EE : East European

E2 : 120V AC Area in E model

E3 : 240V AC Area in E model

G : German

HK : Hong Kong

MX : Mexican

MY : Malaysia

SAF : South African

SP : Singapore

TH : Thailand

TW : Taiwan

- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

## SEMICONDUCTORS

In each case, u:  $\mu$ , for example:

uA... :  $\mu$ A... uPA... :  $\mu$ PA...

uPB... :  $\mu$ PB... uPC... :  $\mu$ PC...

uPD... :  $\mu$ PD...

## CAPACITORS

uF:  $\mu$ F

## COILS

uH:  $\mu$ H

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

| Ref. No. | Part No.     | Description                    | Remark          | Ref. No. | Part No.     | Description                    | Remark          |
|----------|--------------|--------------------------------|-----------------|----------|--------------|--------------------------------|-----------------|
|          | A-2007-131-A | AUDIO BOARD, COMPLETE<br>***** |                 |          |              |                                |                 |
|          |              | < CAPACITOR >                  |                 |          |              |                                |                 |
| C301     | 1-162-289-31 | CERAMIC                        | 390PF 10% 50V   | C625     | 1-130-481-00 | MYLAR                          | 0.0068uF 5% 50V |
| C302     | 1-126-968-11 | ELECT                          | 100uF 20% 6.3V  | C627     | 1-124-903-11 | ELECT                          | 1uF 20% 50V     |
| C303     | 1-162-282-31 | CERAMIC                        | 100PF 10% 50V   | C628     | 1-136-153-00 | FILM                           | 0.01uF 5% 50V   |
| C304     | 1-130-483-00 | MYLAR                          | 0.01uF 5% 50V   |          |              |                                |                 |
| C305     | 1-107-715-11 | ELECT                          | 22uF 20% 16V    | C642     | 1-104-664-11 | ELECT                          | 47uF 20% 16V    |
|          |              |                                |                 |          |              | < CONNECTOR >                  |                 |
| C311     | 1-162-289-31 | CERAMIC                        | 390PF 10% 50V   | * CN601  | 1-568-864-11 | SOCKET, CONNECTOR 21P          |                 |
| C313     | 1-162-282-31 | CERAMIC                        | 100PF 10% 50V   | CN602    | 1-564-718-11 | PIN, CONNECTOR (SMALL TYPE) 2P |                 |
| C314     | 1-130-487-00 | MYLAR                          | 0.022uF 5% 50V  | * CN651  | 1-564-521-11 | PLUG, CONNECTOR 6P             |                 |
| C315     | 1-126-233-11 | ELECT                          | 22uF 20% 50V    |          |              | < IC >                         |                 |
| C331     | 1-137-427-11 | FILM                           | 120PF 5% 50V    | IC601    | 8-759-111-44 | IC uPC4570C-1                  |                 |
|          |              |                                |                 | IC602    | 8-759-143-54 | IC uPC1330HA                   |                 |
| C332     | 1-162-288-31 | CERAMIC                        | 330PF 10% 50V   | IC611    | 8-759-111-44 | IC uPC4570C-1                  |                 |
| C333     | 1-162-209-31 | CERAMIC                        | 27PF 5% 50V     |          |              | < COIL >                       |                 |
| C401     | 1-162-289-31 | CERAMIC                        | 390PF 10% 50V   | L331     | 1-410-780-11 | INDUCTOR                       | 27mH            |
| C402     | 1-126-968-11 | ELECT                          | 100uF 20% 6.3V  | L431     | 1-410-780-11 | INDUCTOR                       | 27mH            |
| C403     | 1-162-282-31 | CERAMIC                        | 100PF 10% 50V   |          |              | < TRANSISTOR >                 |                 |
| C404     | 1-130-483-00 | MYLAR                          | 0.01uF 5% 50V   | Q621     | 8-729-142-46 | TRANSISTOR 2SC2001-LK          |                 |
| C405     | 1-107-715-11 | ELECT                          | 22uF 20% 16V    | Q622     | 8-729-142-46 | TRANSISTOR 2SC2001-LK          |                 |
| C411     | 1-162-289-31 | CERAMIC                        | 390PF 10% 50V   | Q623     | 8-729-801-93 | TRANSISTOR 2SD1387             |                 |
| C413     | 1-162-282-31 | CERAMIC                        | 100PF 10% 50V   | Q651     | 8-729-900-65 | TRANSISTOR DTA144ES            |                 |
| C414     | 1-130-487-00 | MYLAR                          | 0.022uF 5% 50V  |          |              | < RESISTOR >                   |                 |
| C415     | 1-126-233-11 | ELECT                          | 22uF 20% 50V    | R301     | 1-247-881-00 | CARBON                         | 120K 5% 1/4W    |
| C431     | 1-137-427-11 | FILM                           | 120PF 5% 50V    | R302     | 1-249-409-11 | CARBON                         | 220 5% 1/4W     |
| C432     | 1-162-288-31 | CERAMIC                        | 330PF 10% 50V   | R303     | 1-249-433-11 | CARBON                         | 22K 5% 1/4W     |
| C433     | 1-162-209-31 | CERAMIC                        | 27PF 5% 50V     | R304     | 1-247-889-00 | CARBON                         | 270K 5% 1/4W    |
| C601     | 1-104-396-11 | ELECT                          | 10uF 20% 16V    | R305     | 1-247-858-11 | CARBON                         | 13K 5% 1/4W     |
|          |              |                                |                 |          |              |                                |                 |
| C602     | 1-104-396-11 | ELECT                          | 10uF 20% 16V    | R311     | 1-247-881-00 | CARBON                         | 120K 5% 1/4W    |
| C611     | 1-124-907-11 | ELECT                          | 10uF 20% 50V    | R312     | 1-247-807-31 | CARBON                         | 100 5% 1/4W     |
| C612     | 1-124-907-11 | ELECT                          | 10uF 20% 50V    | R314     | 1-247-882-11 | CARBON                         | 130K 5% 1/4W    |
| C621     | 1-137-150-11 | FILM                           | 0.01uF 5% 100V  | R315     | 1-247-850-11 | CARBON                         | 6.2K 5% 1/4W    |
| C622     | 1-126-961-11 | ELECT                          | 2.2uF 20% 50V   | R331     | 1-249-430-11 | CARBON                         | 12K 5% 1/4W     |
|          |              |                                |                 |          |              |                                |                 |
| C623     | 1-136-155-00 | FILM                           | 0.015uF 5% 50V  |          |              |                                |                 |
| C624     | 1-130-481-00 | MYLAR                          | 0.0068uF 5% 50V |          |              |                                |                 |

## AUDIO

## BD

| Ref. No.                          | Part No.     | Description                   |          |     |      | Remark | Ref. No. | Part No.     | Description  |          |     |      | Remark |
|-----------------------------------|--------------|-------------------------------|----------|-----|------|--------|----------|--------------|--------------|----------|-----|------|--------|
| R401                              | 1-247-881-00 | CARBON                        | 120K     | 5%  | 1/4W |        | C108     | 1-164-232-11 | CERAMIC CHIP | 0.01uF   |     | 50V  |        |
| R402                              | 1-249-409-11 | CARBON                        | 220      | 5%  | 1/4W |        | C109     | 1-164-232-11 | CERAMIC CHIP | 0.01uF   |     | 50V  |        |
| R403                              | 1-249-433-11 | CARBON                        | 22K      | 5%  | 1/4W |        | C110     | 1-163-989-11 | CERAMIC CHIP | 0.033uF  | 10% | 25V  |        |
| R404                              | 1-247-889-00 | CARBON                        | 270K     | 5%  | 1/4W |        | C111     | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5%  | 50V  |        |
| R405                              | 1-247-858-11 | CARBON                        | 13K      | 5%  | 1/4W |        | C112     | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5%  | 50V  |        |
| R411                              | 1-247-881-00 | CARBON                        | 120K     | 5%  | 1/4W |        | C113     | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |        |
| R412                              | 1-247-807-31 | CARBON                        | 100      | 5%  | 1/4W |        | C114     | 1-164-005-11 | CERAMIC CHIP | 0.47uF   |     | 25V  |        |
| R414                              | 1-247-882-11 | CARBON                        | 130K     | 5%  | 1/4W |        | C115     | 1-126-607-11 | ELECT CHIP   | 47uF     | 20% | 4V   |        |
| R415                              | 1-247-850-11 | CARBON                        | 6.2K     | 5%  | 1/4W |        | C116     | 1-163-016-00 | CERAMIC CHIP | 0.0039uF | 10% | 50V  |        |
| R431                              | 1-249-430-11 | CARBON                        | 12K      | 5%  | 1/4W |        | C117     | 1-164-005-11 | CERAMIC CHIP | 0.47uF   |     | 25V  |        |
| R601                              | 1-249-409-11 | CARBON                        | 220      | 5%  | 1/4W |        | C118     | 1-164-004-11 | CERAMIC CHIP | 0.1uF    | 10% | 25V  |        |
| R602                              | 1-249-409-11 | CARBON                        | 220      | 5%  | 1/4W |        | C119     | 1-163-038-91 | CERAMIC CHIP | 0.1uF    |     | 25V  |        |
| R608                              | 1-249-409-11 | CARBON                        | 220      | 5%  | 1/4W |        | C120     | 1-124-779-00 | ELECT CHIP   | 10uF     | 20% | 16V  |        |
| R609                              | 1-249-433-11 | CARBON                        | 22K      | 5%  | 1/4W |        | C121     | 1-163-038-91 | CERAMIC CHIP | 0.1uF    |     | 25V  |        |
| R611                              | 1-249-409-11 | CARBON                        | 220      | 5%  | 1/4W |        | C122     | 1-164-232-11 | CERAMIC CHIP | 0.01uF   |     | 50V  |        |
| R612                              | 1-249-409-11 | CARBON                        | 220      | 5%  | 1/4W |        | C123     | 1-163-038-91 | CERAMIC CHIP | 0.1uF    |     | 25V  |        |
| △R621                             | 1-212-851-00 | FUSIBLE                       | 5.6      | 5%  | 1/4W | F      | C124     | 1-126-607-11 | ELECT CHIP   | 47uF     | 20% | 4V   |        |
| △R622                             | 1-212-851-00 | FUSIBLE                       | 5.6      | 5%  | 1/4W | F      | C125     | 1-164-232-11 | CERAMIC CHIP | 0.01uF   |     | 50V  |        |
| R623                              | 1-249-432-11 | CARBON                        | 18K      | 5%  | 1/4W |        | C126     | 1-163-038-91 | CERAMIC CHIP | 0.1uF    |     | 25V  |        |
| R624                              | 1-249-432-11 | CARBON                        | 18K      | 5%  | 1/4W |        | C127     | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |        |
| R625                              | 1-249-429-11 | CARBON                        | 10K      | 5%  | 1/4W |        | C128     | 1-163-135-00 | CERAMIC CHIP | 560PF    | 5%  | 50V  |        |
| R651                              | 1-247-856-00 | CARBON                        | 11K      | 5%  | 1/4W |        | C129     | 1-163-038-91 | CERAMIC CHIP | 0.1uF    |     | 25V  |        |
| R652                              | 1-247-856-00 | CARBON                        | 11K      | 5%  | 1/4W |        | C130     | 1-164-336-11 | CERAMIC CHIP | 0.33uF   |     | 25V  |        |
| R653                              | 1-249-441-11 | CARBON                        | 100K     | 5%  | 1/4W |        | C131     | 1-164-346-11 | CERAMIC CHIP | 1uF      |     | 16V  |        |
| < VARIABLE RESISTOR >             |              |                               |          |     |      |        | C140     | 1-110-501-11 | CERAMIC CHIP | 0.33uF   | 10% | 16V  |        |
| RV301                             | 1-238-598-11 | RES, ADJ, CARBON 2.2K         |          |     |      |        | C154     | 1-163-235-11 | CERAMIC CHIP | 22PF     | 5%  | 50V  |        |
| RV311                             | 1-238-598-11 | RES, ADJ, CARBON 2.2K         |          |     |      |        | C161     | 1-164-005-11 | CERAMIC CHIP | 0.47uF   |     | 25V  |        |
| RV341                             | 1-238-551-11 | RES, ADJ, CARBON 220K         |          |     |      |        | C162     | 1-164-232-11 | CERAMIC CHIP | 0.01uF   |     | 50V  |        |
| RV401                             | 1-238-598-11 | RES, ADJ, CARBON 2.2K         |          |     |      |        | C163     | 1-163-117-00 | CERAMIC CHIP | 100PF    | 5%  | 50V  |        |
| RV411                             | 1-238-598-11 | RES, ADJ, CARBON 2.2K         |          |     |      |        | C164     | 1-163-145-00 | CERAMIC CHIP | 0.0015uF | 5%  | 50V  |        |
| RV441                             | 1-238-551-11 | RES, ADJ, CARBON 220K         |          |     |      |        | C165     | 1-164-004-11 | CERAMIC CHIP | 0.1uF    | 10% | 25V  |        |
| RV651                             | 1-238-599-11 | RES, ADJ, CARBON 4.7K         |          |     |      |        | C166     | 1-163-137-00 | CERAMIC CHIP | 680PF    | 5%  | 50V  |        |
| RV652                             | 1-238-599-11 | RES, ADJ, CARBON 4.7K         |          |     |      |        | C167     | 1-163-121-00 | CERAMIC CHIP | 150PF    | 5%  | 50V  |        |
| < TRANSFORMER >                   |              |                               |          |     |      |        | C168     | 1-163-137-00 | CERAMIC CHIP | 680PF    | 5%  | 50V  |        |
| T621                              | 1-423-980-11 | TRANSFORMER, BIAS OSCILLATION |          |     |      |        | C169     | 1-163-121-00 | CERAMIC CHIP | 150PF    | 5%  | 50V  |        |
| *****                             |              |                               |          |     |      |        | C170     | 1-163-099-00 | CERAMIC CHIP | 18PF     | 5%  | 50V  |        |
| * A-4699-515-A BD BOARD, COMPLETE |              |                               |          |     |      |        | C171     | 1-163-237-11 | CERAMIC CHIP | 27PF     | 5%  | 50V  |        |
| *****                             |              |                               |          |     |      |        | C173     | 1-163-038-91 | CERAMIC CHIP | 0.1uF    |     | 25V  |        |
| < CAPACITOR >                     |              |                               |          |     |      |        | C174     | 1-163-038-91 | CERAMIC CHIP | 0.1uF    |     | 25V  |        |
| C101                              | 1-126-607-11 | ELECT CHIP                    | 47uF     | 20% | 4V   |        | C175     | 1-163-038-91 | CERAMIC CHIP | 0.1uF    |     | 25V  |        |
| C102                              | 1-163-141-00 | CERAMIC CHIP                  | 0.001uF  | 5%  | 50V  |        | C176     | 1-163-038-91 | CERAMIC CHIP | 0.1uF    |     | 25V  |        |
| C103                              | 1-164-346-11 | CERAMIC CHIP                  | 1uF      |     | 16V  |        | C177     | 1-163-038-91 | CERAMIC CHIP | 0.1uF    |     | 25V  |        |
| C105                              | 1-163-038-91 | CERAMIC CHIP                  | 0.1uF    |     | 25V  |        | C178     | 1-163-038-91 | CERAMIC CHIP | 0.1uF    |     | 25V  |        |
| C106                              | 1-164-161-11 | CERAMIC CHIP                  | 0.0022uF | 10% | 100V |        | C179     | 1-163-038-91 | CERAMIC CHIP | 0.1uF    |     | 25V  |        |
| C107                              | 1-164-161-11 | CERAMIC CHIP                  | 0.0022uF | 10% | 100V |        | C181     | 1-126-205-11 | ELECT CHIP   | 47uF     | 20% | 6.3V |        |
|                                   |              |                               |          |     |      |        | C182     | 1-126-393-11 | ELECT        | 33uF     | 20% | 10V  |        |
|                                   |              |                               |          |     |      |        | C183     | 1-124-778-00 | ELECT CHIP   | 22uF     | 20% | 6.3V |        |
|                                   |              |                               |          |     |      |        | C185     | 1-164-232-11 | CERAMIC CHIP | 0.01uF   |     | 50V  |        |
|                                   |              |                               |          |     |      |        | C188     | 1-163-235-11 | CERAMIC CHIP | 22PF     | 5%  | 50V  |        |

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

| Ref. No. | Part No.     | Description                     | Remark |  |  | Ref. No. | Part No.     | Description                    | Remark |  |  |
|----------|--------------|---------------------------------|--------|--|--|----------|--------------|--------------------------------|--------|--|--|
| C189     | 1-163-235-11 | CERAMIC CHIP 22PF 5% 50V        |        |  |  | R132     | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W       |        |  |  |
|          |              | < CONNECTOR >                   |        |  |  | R133     | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W       |        |  |  |
| CNU101   | 1-777-937-11 | CONNECTOR, FFC/FPC 16P          |        |  |  | R134     | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W       |        |  |  |
| CNU102   | 1-778-874-11 | CONNECTOR, FFC(LIF(NON-ZIF))19P |        |  |  | R135     | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W       |        |  |  |
|          |              | < FERRITE BEAD >                |        |  |  | R136     | 1-216-073-00 | METAL CHIP 10K 5% 1/10W        |        |  |  |
| FB101    | 1-414-234-11 | INDUCTOR, FERRITE BEAD          |        |  |  | R137     | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W       |        |  |  |
| FB103    | 1-414-234-11 | INDUCTOR, FERRITE BEAD          |        |  |  | R138     | 1-216-025-91 | METAL GLAZE 100 5% 1/10W       |        |  |  |
|          |              | < IC >                          |        |  |  | R156     | 1-216-081-00 | METAL CHIP 22K 5% 1/10W        |        |  |  |
| IC101    | 8-752-080-62 | IC CXA1992AR                    |        |  |  | R157     | 1-216-069-00 | METAL CHIP 6.8K 5% 1/10W       |        |  |  |
| IC102    | 8-759-429-32 | IC BA5941FP-E2                  |        |  |  | R158     | 1-216-001-00 | METAL CHIP 10 5% 1/10W         |        |  |  |
| IC103    | 8-752-378-66 | IC CXD2519Q                     |        |  |  |          |              |                                |        |  |  |
|          |              | < CHIP CONDUCTOR >              |        |  |  | R159     | 1-216-121-91 | METAL GLAZE 1M 5% 1/10W        |        |  |  |
| JW101    | 1-216-295-00 | CONDUCTOR, CHIP (2012)          |        |  |  | R161     | 1-216-097-91 | METAL GLAZE 100K 5% 1/10W      |        |  |  |
| JW104    | 1-216-295-00 | CONDUCTOR, CHIP (2012)          |        |  |  | R162     | 1-216-073-00 | METAL CHIP 10K 5% 1/10W        |        |  |  |
|          |              | < TRANSISTOR >                  |        |  |  | R163     | 1-216-121-91 | METAL GLAZE 1M 5% 1/10W        |        |  |  |
| Q101     | 8-729-010-08 | TRANSISTOR MSB710-R             |        |  |  | R164     | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W       |        |  |  |
|          |              | < RESISTOR >                    |        |  |  |          |              |                                |        |  |  |
| R102     | 1-216-001-00 | METAL CHIP 10 5% 1/10W          |        |  |  | R165     | 1-216-049-91 | METAL GLAZE 1K 5% 1/10W        |        |  |  |
| R104     | 1-216-093-00 | METAL CHIP 68K 5% 1/10W         |        |  |  | R166     | 1-216-073-00 | METAL CHIP 10K 5% 1/10W        |        |  |  |
| R105     | 1-216-088-00 | METAL CHIP 43K 5% 1/10W         |        |  |  | R167     | 1-216-081-00 | METAL CHIP 22K 5% 1/10W        |        |  |  |
| R106     | 1-216-088-00 | METAL CHIP 43K 5% 1/10W         |        |  |  | R168     | 1-216-073-00 | METAL CHIP 10K 5% 1/10W        |        |  |  |
| R107     | 1-216-088-00 | METAL CHIP 43K 5% 1/10W         |        |  |  | R169     | 1-216-079-00 | METAL CHIP 18K 5% 1/10W        |        |  |  |
| R108     | 1-216-088-00 | METAL CHIP 43K 5% 1/10W         |        |  |  |          |              |                                |        |  |  |
| R109     | 1-216-093-00 | METAL CHIP 68K 5% 1/10W         |        |  |  | R170     | 1-216-081-00 | METAL CHIP 22K 5% 1/10W        |        |  |  |
| R114     | 1-216-101-00 | METAL CHIP 150K 5% 1/10W        |        |  |  | R171     | 1-216-073-00 | METAL CHIP 10K 5% 1/10W        |        |  |  |
| R115     | 1-216-101-00 | METAL CHIP 150K 5% 1/10W        |        |  |  | R172     | 1-216-079-00 | METAL CHIP 18K 5% 1/10W        |        |  |  |
| R116     | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W        |        |  |  | R173     | 1-216-025-91 | METAL GLAZE 100 5% 1/10W       |        |  |  |
| R117     | 1-216-069-00 | METAL CHIP 6.8K 5% 1/10W        |        |  |  | R174     | 1-216-033-00 | METAL CHIP 220 5% 1/10W        |        |  |  |
| R118     | 1-216-063-00 | METAL CHIP 3.9K 5% 1/10W        |        |  |  |          |              |                                |        |  |  |
| R119     | 1-216-085-00 | METAL CHIP 33K 5% 1/10W         |        |  |  | R175     | 1-216-025-91 | METAL GLAZE 100 5% 1/10W       |        |  |  |
| R120     | 1-216-089-91 | METAL GLAZE 47K 5% 1/10W        |        |  |  | R176     | 1-216-025-91 | METAL GLAZE 100 5% 1/10W       |        |  |  |
| R121     | 1-216-114-00 | METAL GLAZE 510K 5% 1/10W       |        |  |  | R177     | 1-216-025-91 | METAL GLAZE 100 5% 1/10W       |        |  |  |
| R122     | 1-216-097-91 | METAL GLAZE 100K 5% 1/10W       |        |  |  | R178     | 1-216-025-91 | METAL GLAZE 100 5% 1/10W       |        |  |  |
| R123     | 1-216-099-00 | METAL CHIP 120K 5% 1/10W        |        |  |  | R179     | 1-216-025-91 | METAL GLAZE 100 5% 1/10W       |        |  |  |
| R124     | 1-216-091-00 | METAL CHIP 56K 5% 1/10W         |        |  |  |          |              |                                |        |  |  |
| R125     | 1-216-069-00 | METAL CHIP 6.8K 5% 1/10W        |        |  |  | R180     | 1-216-025-91 | METAL GLAZE 100 5% 1/10W       |        |  |  |
| R126     | 1-216-063-91 | METAL GLAZE 3.9K 5% 1/10W       |        |  |  | R181     | 1-216-025-91 | METAL GLAZE 100 5% 1/10W       |        |  |  |
| R127     | 1-216-089-91 | METAL GLAZE 47K 5% 1/10W        |        |  |  | R188     | 1-216-037-00 | METAL CHIP 330 5% 1/10W        |        |  |  |
| R128     | 1-216-098-00 | METAL CHIP 110K 5% 1/10W        |        |  |  | R190     | 1-216-097-91 | METAL GLAZE 100K 5% 1/10W      |        |  |  |
| R129     | 1-216-025-91 | METAL GLAZE 100 5% 1/10W        |        |  |  | R191     | 1-216-105-91 | METAL GLAZE 220K 5% 1/10W      |        |  |  |
| R130     | 1-216-079-00 | METAL CHIP 18K 5% 1/10W         |        |  |  |          |              |                                |        |  |  |
| R131     | 1-216-079-00 | METAL CHIP 18K 5% 1/10W         |        |  |  |          |              |                                |        |  |  |
|          |              | < SWITCH >                      |        |  |  |          |              |                                |        |  |  |
|          |              |                                 |        |  |  | S101     | 1-572-085-11 | SWITCH, LEAF (LIMIT)           |        |  |  |
|          |              | < VIBRATOR >                    |        |  |  |          |              |                                |        |  |  |
|          |              |                                 |        |  |  | X101     | 1-767-408-21 | VIBRATOR, CRYSTAL (16.9344MHz) |        |  |  |
|          |              |                                 |        |  |  | *****    |              |                                |        |  |  |

## CD SW

## CONNECTOR

## DECO

| Ref. No. | Part No.     | Description                                                                    | Remark |
|----------|--------------|--------------------------------------------------------------------------------|--------|
| *        | A-4392-348-A | CD SW BOARD, COMPLETE<br>*****<br>(EXCEPT D60/GR7: EA4, SAF, TH/RX70: US, CND) |        |
| *        | A-4392-349-A | CD SW BOARD, COMPLETE<br>*****<br>(D60/RX70: US, CND)                          |        |
| *        | A-4392-849-A | CD SW BOARD, COMPLETE (GR7: EA4, SAF, TH)<br>*****<br>< CONNECTOR >            |        |
| * CN602  | 1-568-824-11 | SOCKET, CONNECTOR 5P<br>(EXCEPT D60/RX70: US, CND)                             |        |
| * CN606  | 1-568-851-11 | SOCKET, CONNECTOR 8P (D60/RX70: US, CND)                                       |        |
| CN606    | 1-568-853-11 | SOCKET, CONNECTOR 10P<br>(EXCEPT D60/RX70: US, CND)                            |        |
|          |              | < DIODE >                                                                      |        |
| D626     | 8-719-056-13 | DIODE SML79423C-TP15<br>(DISC IN/PLAY: DISC 1)                                 |        |
| D627     | 8-719-056-13 | DIODE SML79423C-TP15<br>(DISC IN/PLAY: DISC 1)                                 |        |
| D628     | 8-719-056-13 | DIODE SML79423C-TP15<br>(DISC IN/PLAY: DISC 2)                                 |        |
| D629     | 8-719-056-13 | DIODE SML79423C-TP15<br>(DISC IN/PLAY: DISC 2)                                 |        |
| D630     | 8-719-056-13 | DIODE SML79423C-TP15<br>(DISC IN/PLAY: DISC 3)                                 |        |
| D631     | 8-719-056-13 | DIODE SML79423C-TP15<br>(DISC IN/PLAY: DISC 3)                                 |        |
| D632     | 8-719-058-03 | DIODE SEL5423E-TP15 (PLAY)                                                     |        |
| D633     | 8-719-063-91 | DIODE SLR325DC-P-T32 (PAUSE)                                                   |        |
|          |              | < TRANSISTOR >                                                                 |        |
| Q612     | 8-729-119-76 | TRANSISTOR 2SA1175-HFE                                                         |        |
| Q613     | 8-729-119-76 | TRANSISTOR 2SA1175-HFE                                                         |        |
| Q614     | 8-729-119-76 | TRANSISTOR 2SA1175-HFE                                                         |        |
| Q616     | 8-729-119-76 | TRANSISTOR 2SA1175-HFE                                                         |        |
|          |              | < RESISTOR >                                                                   |        |
| R709     | 1-249-401-11 | CARBON 47 5% 1/4W                                                              |        |
| R710     | 1-249-413-11 | CARBON 470 5% 1/4W                                                             |        |
| R711     | 1-247-815-91 | CARBON 220 5% 1/4W                                                             |        |
| R712     | 1-249-411-11 | CARBON 330 5% 1/4W                                                             |        |
| R713     | 1-249-413-11 | CARBON 470 5% 1/4W                                                             |        |
| R714     | 1-249-415-11 | CARBON 680 5% 1/4W                                                             |        |
| R715     | 1-249-417-11 | CARBON 1K 5% 1/4W                                                              |        |
| R716     | 1-249-419-11 | CARBON 1.5K 5% 1/4W                                                            |        |
| R717     | 1-249-421-11 | CARBON 2.2K 5% 1/4W                                                            |        |
| R718     | 1-247-804-11 | CARBON 75 5% 1/4W                                                              |        |

| Ref. No. | Part No.     | Description                                                      | Remark |
|----------|--------------|------------------------------------------------------------------|--------|
| R719     | 1-247-804-11 | CARBON 75 5% 1/4W                                                |        |
| R720     | 1-247-804-11 | CARBON 75 5% 1/4W                                                |        |
| R721     | 1-247-804-11 | CARBON 75 5% 1/4W                                                |        |
| R722     | 1-247-804-11 | CARBON 75 5% 1/4W                                                |        |
| R723     | 1-247-804-11 | CARBON 75 5% 1/4W                                                |        |
| R724     | 1-247-807-31 | CARBON 100 5% 1/4W                                               |        |
| R725     | 1-247-807-31 | CARBON 100 5% 1/4W                                               |        |
| R791     | 1-247-804-11 | CARBON 75 5% 1/4W                                                |        |
| R792     | 1-247-804-11 | CARBON 75 5% 1/4W                                                |        |
| R793     | 1-247-804-11 | CARBON 75 5% 1/4W                                                |        |
| R794     | 1-247-804-11 | CARBON 75 5% 1/4W                                                |        |
| R795     | 1-247-804-11 | CARBON 75 5% 1/4W                                                |        |
| R796     | 1-247-804-11 | CARBON 75 5% 1/4W                                                |        |
|          |              | < SWITCH >                                                       |        |
| S645     | 1-762-196-21 | SWITCH, TACT (POWER)                                             |        |
| S646     | 1-762-196-21 | SWITCH, TACT (I<<< <<<)                                          |        |
| S647     | 1-762-196-21 | SWITCH, TACT (▶▶▶ ▶▶▶)                                           |        |
| S648     | 1-762-196-21 | SWITCH, TACT (DISC SKIP EX-CHANGE)                               |        |
| S649     | 1-762-196-21 | SWITCH, TACT (DISC 1)                                            |        |
| S650     | 1-762-196-21 | SWITCH, TACT (DISC 2)                                            |        |
| S651     | 1-762-196-21 | SWITCH, TACT (DISC 3)                                            |        |
| S652     | 1-762-196-21 | SWITCH, TACT (■)                                                 |        |
| S653     | 1-762-196-21 | SWITCH, TACT (△ OPEN/CLOSE)                                      |        |
| S654     | 1-762-196-21 | SWITCH, TACT (▷III)                                              |        |
|          |              | *****                                                            |        |
| *        | 1-658-575-11 | CONNECTOR BOARD<br>*****                                         |        |
|          |              | < CONNECTOR >                                                    |        |
| * CN701  | 1-568-946-11 | PIN, CONNECTOR 8P                                                |        |
| CN702    | 1-750-413-11 | CONNECTOR, FFC/FPC 8P                                            |        |
|          |              | < TRANSISTOR >                                                   |        |
| Q701     | 8-729-900-80 | TRANSISTOR DTC114ES                                              |        |
|          |              | < RESISTOR >                                                     |        |
| R703     | 1-249-435-11 | CARBON 33K 5% 1/4W                                               |        |
| R704     | 1-249-429-11 | CARBON 10K 5% 1/4W                                               |        |
| R705     | 1-249-417-11 | CARBON 1K 5% 1/4W                                                |        |
|          |              | *****                                                            |        |
| *        | 1-664-007-11 | DECO BOARD<br>*****<br>(GR7/GR7J/RX70: AEP, AED, CIS, EE, G, UK) |        |
|          |              | < CONNECTOR >                                                    |        |
| * CN605  | 1-568-848-11 | SOCKET, CONNECTOR 5P                                             |        |

| Ref. No.       | Part No.     | Description                            | Remark | Ref. No.      | Part No.     | Description                       | Remark           |
|----------------|--------------|----------------------------------------|--------|---------------|--------------|-----------------------------------|------------------|
| < DIODE >      |              |                                        |        | C764          | 1-126-964-11 | ELECT                             | 10uF 20% 50V     |
| D619           | 8-719-058-04 | DIODE SEL5223S-TP15 (RIGHT)            |        | C765          | 1-126-960-11 | ELECT                             | 1uF 20% 50V      |
| D620           | 8-719-058-04 | DIODE SEL5223S-TP15 (RIGHT)            |        |               |              |                                   | (GR7: EA3/GR7J)  |
| D621           | 8-719-058-04 | DIODE SEL5223S-TP15 (CENTER)           |        | C766          | 1-162-305-11 | CERAMIC                           | 0.0068uF 20% 16V |
| D622           | 8-719-058-03 | DIODE SEL5423E-TP15 (CENTER)           |        | C767          | 1-162-294-31 | CERAMIC                           | 0.001uF 10% 50V  |
| D623           | 8-719-058-04 | DIODE SEL5223S-TP15 (CENTER)           |        |               |              |                                   | (GR7: EA3/GR7J)  |
| D624           | 8-719-058-04 | DIODE SEL5223S-TP15 (LEFT)             |        | C768          | 1-136-495-11 | FILM                              | 0.068uF 5% 50V   |
| D625           | 8-719-058-04 | DIODE SEL5223S-TP15 (LEFT)             |        |               |              |                                   | (GR7: EA3/GR7J)  |
| < TRANSISTOR > |              |                                        |        | C769          | 1-124-464-11 | ELECT                             | 0.22uF 20% 50V   |
| Q610           | 8-729-119-76 | TRANSISTOR 2SA1175-HFE                 |        |               |              |                                   | (GR7: EA3/GR7J)  |
| Q611           | 8-729-119-76 | TRANSISTOR 2SA1175-HFE                 |        | C770          | 1-124-464-11 | ELECT                             | 0.22uF 20% 50V   |
| < RESISTOR >   |              |                                        |        |               |              |                                   | (GR7: EA3/GR7J)  |
| R706           | 1-247-807-31 | CARBON 100 5% 1/4W                     |        | C771          | 1-126-967-11 | ELECT                             | 47uF 20% 10V     |
| R707           | 1-247-807-31 | CARBON 100 5% 1/4W                     |        |               |              |                                   | (GR7: EA3/GR7J)  |
| R708           | 1-247-807-31 | CARBON 100 5% 1/4W                     |        | C772          | 1-164-159-11 | CERAMIC                           | 0.1uF 50V        |
| R746           | 1-247-807-31 | CARBON 100 5% 1/4W                     |        |               |              |                                   | (GR7: EA3/GR7J)  |
| *****          |              |                                        |        | C773          | 1-104-664-11 | ELECT                             | 47uF 20% 25V     |
| *****          |              |                                        |        |               |              |                                   | (GR7: EA3/GR7J)  |
| *              | A-4392-351-A | HP/MIC BOARD, COMPLETE                 |        | C774          | 1-136-495-11 | FILM                              | 0.068uF 5% 50V   |
|                |              | *****                                  |        |               |              |                                   | (GR7: EA3/GR7J)  |
|                |              | (EXCEPT GR7: EA3, EA4, SAF, TH/GR7J)   |        | C775          | 1-162-305-11 | CERAMIC                           | 0.0068uF 20% 16V |
| *****          |              |                                        |        |               |              |                                   | (GR7: EA3/GR7J)  |
| *              | A-4392-851-A | HP/MIC BOARD, COMPLETE                 |        | C776          | 1-162-294-31 | CERAMIC                           | 0.001uF 10% 50V  |
|                |              | *****                                  |        |               |              |                                   | (GR7: EA3/GR7J)  |
|                |              | (GR7:EA4, SAF, TH)                     |        | C777          | 1-136-167-00 | FILM                              | 0.15uF 5% 50V    |
| *****          |              |                                        |        |               |              |                                   | (GR7: EA3/GR7J)  |
| *              | A-4392-857-A | HP/MIC BOARD, COMPLETE (GR7: EA3/GR7J) |        | C778          | 1-126-960-11 | ELECT                             | 1uF 20% 50V      |
|                |              | *****                                  |        |               |              |                                   | (GR7: EA3/GR7J)  |
| < CAPACITOR >  |              |                                        |        | C779          | 1-161-494-00 | CERAMIC                           | 0.022uF 25V      |
| C750           | 1-162-294-31 | CERAMIC 0.001uF 10% 50V                |        |               |              |                                   | (GR7: EA3/GR7J)  |
| C751           | 1-162-294-31 | CERAMIC 0.001uF 10% 50V                |        | C780          | 1-126-961-11 | ELECT                             | 2.2uF 20% 50V    |
| C752           | 1-164-159-11 | CERAMIC 0.1uF 50V                      |        |               |              |                                   | (GR7: EA3/GR7J)  |
|                |              | (EXCEPT GR7: EA4, SAF, TH)             |        | C782          | 1-162-290-31 | CERAMIC                           | 470PF 10% 50V    |
| C752           | 1-164-159-21 | CERAMIC 0.1uF 50V                      |        | < CONNECTOR > |              |                                   |                  |
|                |              | (GR7: EA4, SAF, TH)                    |        | * CN750       | 1-568-828-11 | SOCKET, CONNECTOR 9P              |                  |
| C753           | 1-164-159-11 | CERAMIC 0.1uF 50V                      |        | < DIODE >     |              |                                   |                  |
|                |              | (EXCEPT GR7: EA4, SAF, TH)             |        | D751          | 8-719-024-99 | DIODE 11ES2-NTA2B (GR7: EA3/GR7J) |                  |
| C753           | 1-164-159-21 | CERAMIC 0.1uF 50V                      |        | D752          | 8-719-024-99 | DIODE 11ES2-NTA2B (GR7: EA3/GR7J) |                  |
|                |              | (GR7: EA4, SAF, TH)                    |        | D753          | 8-719-024-99 | DIODE 11ES2-NTA2B (GR7: EA3/GR7J) |                  |
| C754           | 1-162-306-11 | CERAMIC 0.01uF 20% 16V                 |        | < IC >        |              |                                   |                  |
| C755           | 1-126-961-11 | ELECT 2.2uF 20% 50V                    |        | IC750         | 8-759-634-51 | IC M5218AP                        |                  |
| C756           | 1-162-294-31 | CERAMIC 0.001uF 10% 50V                |        | IC751         | 8-759-450-96 | IC M65850P (GR7: EA3/GR7J)        |                  |
| C757           | 1-162-215-31 | CERAMIC 47PF 5% 50V                    |        | < JACK >      |              |                                   |                  |
| C758           | 1-126-964-11 | ELECT 10uF 20% 50V                     |        | J750          | 1-569-112-21 | JACK, LARGE TYPE (PHONES)         |                  |
| C759           | 1-126-959-11 | ELECT 0.47uF 20% 50V                   |        | J751          | 1-569-112-21 | JACK, LARGE TYPE (MIX MIC)        |                  |
| C760           | 1-162-215-31 | CERAMIC 47PF 5% 50V                    |        |               |              |                                   |                  |
| C761           | 1-162-282-31 | CERAMIC 100PF 10% 50V                  |        |               |              |                                   |                  |
| C762           | 1-126-961-11 | ELECT 2.2uF 20% 50V                    |        |               |              |                                   |                  |

## HP/MIC

## LEAF SWITCH

## MAIN

| Ref. No. | Part No.     | Description                                       | Remark | Ref. No. | Part No.     | Description                              | Remark |
|----------|--------------|---------------------------------------------------|--------|----------|--------------|------------------------------------------|--------|
|          |              | < COIL >                                          |        |          |              |                                          |        |
| L751     | 1-410-521-11 | INDUCTOR 100uH (GR7: EA3/GR7J)                    |        | Q1002    | 8-749-010-90 | TRANSISTOR PHOTO REFLECTOR NJL5165KA     |        |
|          |              | < RESISTOR >                                      |        |          |              | < RESISTOR >                             |        |
| R750     | 1-249-429-11 | CARBON 10K 5% 1/4W                                |        | R1001    | 1-247-818-11 | CARBON 300 5% 1/4W                       |        |
| R751     | 1-249-417-11 | CARBON 1K 5% 1/4W                                 |        | R1002    | 1-247-820-11 | CARBON 360 5% 1/4W                       |        |
| R752     | 1-249-441-11 | CARBON 100K 5% 1/4W                               |        | R1003    | 1-249-414-11 | CARBON 560 5% 1/4W                       |        |
| R753     | 1-249-417-11 | CARBON 1K 5% 1/4W                                 |        | R1004    | 1-247-834-11 | CARBON 1.3K 5% 1/4W                      |        |
| R754     | 1-247-863-91 | CARBON 22K 5% 1/4W (GR7: EA4, SAF, TH)            |        | R1005    | 1-247-818-11 | CARBON 300 5% 1/4W                       |        |
|          |              | < SWITCH >                                        |        |          |              | < SWITCH >                               |        |
| R754     | 1-249-433-11 | CARBON 22K 5% 1/4W (EXCEPT GR7: EA4, SAF, TH)     |        | S1001    | 1-692-832-11 | SWITCH, PUSH (1 KEY) (A PLAY)            |        |
| R755     | 1-249-429-11 | CARBON 10K 5% 1/4W                                |        | S1002    | 1-692-832-11 | SWITCH, PUSH (1 KEY) (B PLAY)            |        |
| R756     | 1-247-885-00 | CARBON 180K 5% 1/4W                               |        | S1003    | 1-571-281-21 | SWITCH, LEAF (A HALF)                    |        |
| R757     | 1-247-807-31 | CARBON 100 5% 1/4W                                |        | S1004    | 1-571-281-21 | SWITCH, LEAF (A CrO2)                    |        |
| R758     | 1-249-433-11 | CARBON 22K 5% 1/4W (GR7: EA3/GR7J)                |        | S1005    | 1-572-248-11 | SWITCH, LEAF (REC A)                     |        |
|          |              | < VARIABLE RESISTOR >                             |        | S1006    | 1-572-248-11 | SWITCH, LEAF (B HALF)                    |        |
| R759     | 1-249-433-11 | CARBON 22K 5% 1/4W (GR7: EA3/GR7J)                |        | S1008    | 1-571-281-21 | SWITCH, LEAF (B CrO2)                    |        |
| R760     | 1-249-433-11 | CARBON 22K 5% 1/4W (GR7: EA3/GR7J)                |        | S1009    | 1-571-281-21 | SWITCH, LEAF (REC B)                     |        |
| R761     | 1-247-881-00 | CARBON 120K 5% 1/4W (GR7: EA3/GR7J)               |        |          |              | *****                                    |        |
| R762     | 1-249-433-11 | CARBON 22K 5% 1/4W (GR7: EA3/GR7J)                |        | *        | A-4392-711-A | MAIN BOARD, COMPLETE (RX70: CND)         |        |
| R763     | 1-249-433-11 | CARBON 22K 5% 1/4W (GR7: EA3/GR7J)                |        |          |              | *****                                    |        |
| R764     | 1-249-433-11 | CARBON 22K 5% 1/4W (GR7: EA3/GR7J)                |        | *        | A-4392-712-A | MAIN BOARD, COMPLETE (RX70: CIS, EE)     |        |
| R765     | 1-249-437-11 | CARBON 47K 5% 1/4W (GR7: EA3/GR7J)                |        |          |              | *****                                    |        |
| R766     | 1-249-431-11 | CARBON 15K 5% 1/4W (GR7: EA3/GR7J)                |        | *        | A-4392-713-A | MAIN BOARD, COMPLETE (GR7: E2, MX)       |        |
| R767     | 1-249-431-11 | CARBON 15K 5% 1/4W (GR7: EA3/GR7J)                |        |          |              | *****                                    |        |
|          |              | < CONNECTOR >                                     |        | *        | A-4392-714-A | MAIN BOARD, COMPLETE (GR7: AUS)          |        |
| RV750    | 1-223-983-11 | RES, VAR, CARBON 50K (MIC LEVEL)                  |        |          |              | *****                                    |        |
| RV751    | 1-223-983-11 | RES, VAR, CARBON 50K (ECHO LEVEL) (GR7: EA3/GR7J) |        | *        | A-4392-315-A | MAIN BOARD, COMPLETE (RX70: US)          |        |
|          |              | *****                                             |        |          |              | *****                                    |        |
| *        | 1-650-669-11 | LEAF SWITCH BOARD                                 |        | *        | A-4392-316-A | MAIN BOARD, COMPLETE                     |        |
|          |              | *****                                             |        |          |              | *****                                    |        |
|          |              | < TRANSISTOR >                                    |        |          |              | (RX70: AEP, AED, G, UK)                  |        |
| Q1001    | 8-749-010-90 | TRANSISTOR PHOTO REFLECTOR NJL5165KA              |        | *        | A-4392-317-A | MAIN BOARD, COMPLETE                     |        |
|          |              |                                                   |        |          |              | *****                                    |        |
|          |              |                                                   |        |          |              | (GR7: EA3, E3, HK, MY, SP, TW/GR7J)      |        |
|          |              |                                                   |        | *        | A-4392-806-A | MAIN BOARD, COMPLETE (D60)               |        |
|          |              |                                                   |        |          |              | *****                                    |        |
|          |              |                                                   |        | *        | A-4392-837-A | MAIN BOARD, COMPLETE (GR7: EA4, TH)      |        |
|          |              |                                                   |        |          |              | *****                                    |        |
|          |              |                                                   |        | *        | A-4392-854-A | MAIN BOARD, COMPLETE (GR7: SAF)          |        |
|          |              |                                                   |        |          |              | *****                                    |        |
|          |              |                                                   |        | *        | 4-870-539-00 | PLATE, GROUND (GR7: EA4, SAF, TH)        |        |
|          |              |                                                   |        | *        | 4-870-539-11 | PLATE, GROUND (EXCEPT GR7: EA4, SAF, TH) |        |
|          |              |                                                   |        |          | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 N-S                |        |

| Ref. No.      | Part No.     | Description | Remark                                                                 | Ref. No. | Part No.     | Description | Remark                                                                         |
|---------------|--------------|-------------|------------------------------------------------------------------------|----------|--------------|-------------|--------------------------------------------------------------------------------|
| < CAPACITOR > |              |             |                                                                        | C221     | 1-126-967-11 | ELECT       | 47uF 20% 10V                                                                   |
| C109          | 1-164-159-11 | CERAMIC     | 0.1uF 50V<br>(RX70: AEP, AED, CIS, EE, G, UK)                          | C222     | 1-126-967-11 | ELECT       | 47uF 20% 10V                                                                   |
| C121          | 1-162-286-21 | CERAMIC     | 220PF 10% 50V<br>(GR7: EA4, SAF, TH)                                   | C223     | 1-126-964-11 | ELECT       | 10uF 20% 50V                                                                   |
| C121          | 1-162-286-31 | CERAMIC     | 220PF 10% 50V<br>(EXCEPT GR7: EA4, SAF, TH)                            | C224     | 1-162-290-31 | CERAMIC     | 470PF 10% 50V                                                                  |
| C122          | 1-162-286-21 | CERAMIC     | 220PF 10% 50V<br>(GR7: EA4, SAF, TH)                                   | C226     | 1-126-964-11 | ELECT       | 10uF 20% 50V                                                                   |
| C122          | 1-162-286-31 | CERAMIC     | 220PF 10% 50V<br>(EXCEPT GR7: EA4, SAF, TH)                            | C231     | 1-126-960-11 | ELECT       | 1uF 20% 50V                                                                    |
| C123          | 1-162-306-11 | CERAMIC     | 0.01uF 20% 16V                                                         | C241     | 1-126-964-11 | ELECT       | 10uF 20% 50V<br>(GR7/GR7J/RX70: US, CND)                                       |
| C131          | 1-136-495-11 | FILM        | 0.068uF 5% 50V<br>(RX70: AEP, AED, CIS, EE, G, UK)                     | C242     | 1-162-292-31 | CERAMIC     | 680PF 10% 50V<br>(GR7/GR7J/RX70: US, CND)                                      |
| C132          | 1-136-495-11 | FILM        | 0.068uF 5% 50V<br>(RX70: AEP, AED, CIS, EE, G, UK)                     | C243     | 1-126-964-11 | ELECT       | 10uF 20% 50V<br>(GR7/GR7J/RX70: US, CND)                                       |
| C171          | 1-162-286-21 | CERAMIC     | 220PF 10% 50V<br>(GR7: EA4, SAF, TH)                                   | C244     | 1-162-286-21 | CERAMIC     | 220PF 10% 50V<br>(GR7: EA4, SAF, TH)                                           |
| C171          | 1-162-286-31 | CERAMIC     | 220PF 10% 50V<br>(EXCEPT GR7: EA4, SAF, TH)                            | C244     | 1-162-286-31 | CERAMIC     | 220PF 10% 50V<br>(EXCEPT D60/GR7: EA4, SAF, TH/RX70: AEP, AED, CIS, EE, G, UK) |
| C172          | 1-162-286-21 | CERAMIC     | 220PF 10% 50V<br>(GR7: EA4, SAF, TH)                                   | C245     | 1-162-306-11 | CERAMIC     | 0.01uF 20% 16V<br>(GR7/GR7J/RX70: US, CND)                                     |
| C172          | 1-162-286-31 | CERAMIC     | 220PF 10% 50V<br>(EXCEPT GR7: EA4, SAF, TH)                            | C246     | 1-162-306-11 | CERAMIC     | 0.01uF 20% 16V<br>(GR7/GR7J/RX70: US, CND)                                     |
| C173          | 1-162-306-11 | CERAMIC     | 0.01uF 20% 16V                                                         | C247     | 1-162-306-11 | CERAMIC     | 0.01uF 20% 16V<br>(GR7/GR7J)                                                   |
| C181          | 1-136-495-11 | FILM        | 0.068uF 5% 50V<br>(RX70: AEP, AED, CIS, EE, G, UK)                     | C251     | 1-136-169-00 | FILM        | 0.22uF 5% 50V                                                                  |
| C182          | 1-136-495-11 | FILM        | 0.068uF 5% 50V<br>(RX70: AEP, AED, CIS, EE, G, UK)                     | C252     | 1-136-169-00 | FILM        | 0.22uF 5% 50V                                                                  |
| C191          | 1-126-963-11 | ELECT       | 4.7uF 20% 50V<br>(D60/GR7/GR7J/RX70: US, CND)                          | C253     | 1-130-493-00 | MYLAR       | 0.068uF 5% 50V                                                                 |
| C192          | 1-164-159-11 | CERAMIC     | 0.1uF 50V<br>(EXCEPT GR7: EA4, SAF, TH/RX70: AEP, AED, CIS, EE, G, UK) | C254     | 1-130-493-00 | MYLAR       | 0.068uF 5% 50V                                                                 |
| C192          | 1-164-159-21 | CERAMIC     | 0.1uF 50V<br>(GR7: EA4, SAF, TH)                                       | C255     | 1-130-486-00 | MYLAR       | 0.018uF 10% 50V                                                                |
| C201          | 1-136-169-00 | FILM        | 0.22uF 5% 50V                                                          | C256     | 1-130-486-00 | MYLAR       | 0.018uF 10% 50V                                                                |
| C202          | 1-136-169-00 | FILM        | 0.22uF 5% 50V                                                          | C257     | 1-130-480-00 | MYLAR       | 0.0056uF 5% 50V                                                                |
| C203          | 1-130-493-00 | MYLAR       | 0.068uF 5% 50V                                                         | C258     | 1-130-479-00 | MYLAR       | 0.0047uF 5% 50V                                                                |
| C204          | 1-130-493-00 | MYLAR       | 0.068uF 5% 50V                                                         | C259     | 1-130-474-00 | MYLAR       | 0.0018uF 5% 50V                                                                |
| C205          | 1-130-486-00 | MYLAR       | 0.018uF 10% 50V                                                        | C260     | 1-126-964-11 | ELECT       | 10uF 20% 50V                                                                   |
| C206          | 1-130-486-00 | MYLAR       | 0.018uF 10% 50V                                                        | C261     | 1-126-964-11 | ELECT       | 10uF 20% 50V                                                                   |
| C207          | 1-130-480-00 | MYLAR       | 0.0056uF 5% 50V                                                        | C262     | 1-130-483-00 | MYLAR       | 0.01uF 5% 50V                                                                  |
| C208          | 1-130-479-00 | MYLAR       | 0.0047uF 5% 50V                                                        | C263     | 1-136-165-00 | FILM        | 0.1uF 5% 50V                                                                   |
| C209          | 1-130-474-00 | MYLAR       | 0.0018uF 5% 50V                                                        | C264     | 1-136-165-00 | FILM        | 0.1uF 5% 50V                                                                   |
| C210          | 1-126-964-11 | ELECT       | 10uF 20% 50V                                                           | C276     | 1-126-964-11 | ELECT       | 10uF 20% 50V                                                                   |
| C211          | 1-126-964-11 | ELECT       | 10uF 20% 50V                                                           | C281     | 1-126-933-11 | ELECT       | 100uF 20% 10V                                                                  |
| C212          | 1-130-483-00 | MYLAR       | 0.01uF 5% 50V                                                          | C282     | 1-126-961-11 | ELECT       | 2.2uF 20% 50V                                                                  |
| C213          | 1-136-165-00 | FILM        | 0.1uF 5% 50V                                                           | C283     | 1-126-933-11 | ELECT       | 100uF 20% 10V                                                                  |
| C214          | 1-136-165-00 | FILM        | 0.1uF 5% 50V                                                           | C284     | 1-126-923-11 | ELECT       | 220uF 20% 10V                                                                  |
| C215          | 1-162-294-31 | CERAMIC     | 0.001uF 10% 50V                                                        | C291     | 1-126-959-11 | ELECT       | 0.47uF 20% 50V                                                                 |
| C216          | 1-136-167-00 | FILM        | 0.15uF 5% 50V                                                          | C301     | 1-126-965-11 | ELECT       | 22uF 20% 50V                                                                   |
|               |              |             |                                                                        | C302     | 1-164-159-11 | CERAMIC     | 0.1uF 50V<br>(EXCEPT GR7: EA4, SAF, TH)                                        |
|               |              |             |                                                                        | C302     | 1-164-159-21 | CERAMIC     | 0.1uF 50V<br>(GR7: EA4, SAF, TH)                                               |
|               |              |             |                                                                        | C303     | 1-136-165-00 | FILM        | 0.1uF 5% 50V                                                                   |
|               |              |             |                                                                        | C304     | 1-126-926-11 | ELECT       | 1000uF 20% 10V                                                                 |
|               |              |             |                                                                        | C305     | 1-162-306-11 | CERAMIC     | 0.01uF 20% 16V                                                                 |

# MAIN

| Ref. No. | Part No.     | Description | Remark                                    | Ref. No.      | Part No.     | Description                                          | Remark                                     |
|----------|--------------|-------------|-------------------------------------------|---------------|--------------|------------------------------------------------------|--------------------------------------------|
| C309     | 1-102-514-11 | CERAMIC     | 22PF 5% 50V                               | C1504         | 1-126-960-11 | ELECT                                                | 1uF 20% 50V<br>(GR7: EA4, SAF, TH)         |
| C310     | 1-102-514-11 | CERAMIC     | 22PF 5% 50V                               | C1505         | 1-126-964-11 | ELECT                                                | 10uF 20% 50V                               |
| C311     | 1-164-159-11 | CERAMIC     | 0.1uF 50V<br>(EXCEPT GR7: EA4, SAF, TH)   | C1506         | 1-126-157-11 | ELECT                                                | 10uF 20% 16V<br>(EXCEPT GR7: EA4, SAF, TH) |
| C311     | 1-164-159-21 | CERAMIC     | 0.1uF 50V<br>(GR7: EA4, SAF, TH)          | C1506         | 1-126-964-11 | ELECT                                                | 10uF 20% 50V<br>(GR7: EA4, SAF, TH)        |
| C315     | 1-126-933-11 | ELECT       | 100uF 20% 10V                             | C1507         | 1-126-160-11 | ELECT                                                | 1uF 20% 50V<br>(EXCEPT GR7: EA4, SAF, TH)  |
| C390     | 1-126-933-11 | ELECT       | 100uF 20% 10V                             | C1507         | 1-126-960-11 | ELECT                                                | 1uF 20% 50V<br>(GR7: EA4, SAF, TH)         |
| C391     | 1-162-306-11 | CERAMIC     | 0.01uF 20% 16V<br>(EXCEPT D60/RX70: US)   | C1508         | 1-126-933-11 | ELECT                                                | 100uF 20% 10V                              |
| C392     | 1-126-933-11 | ELECT       | 100uF 20% 10V<br>(EXCEPT D60/RX70: US)    | C1521         | 1-126-964-11 | ELECT                                                | 10uF 20% 50V                               |
| C393     | 1-126-925-11 | ELECT       | 470uF 20% 10V                             | C1522         | 1-126-964-11 | ELECT                                                | 10uF 20% 50V                               |
| C394     | 1-164-159-11 | CERAMIC     | 0.1uF 50V<br>(EXCEPT GR7: EA4, SAF, TH)   | C1523         | 1-126-933-11 | ELECT                                                | 100uF 20% 16V                              |
| C394     | 1-164-159-21 | CERAMIC     | 0.1uF 50V<br>(GR7: EA4, SAF, TH)          | C1531         | 1-164-159-11 | CERAMIC                                              | 0.1uF 50V<br>(EXCEPT GR7: EA4, SAF, TH)    |
| C395     | 1-162-282-31 | CERAMIC     | 100PF 10% 50V                             | C1531         | 1-164-159-21 | CERAMIC                                              | 0.1uF 50V<br>(GR7: EA4, SAF, TH)           |
| C396     | 1-126-961-11 | ELECT       | 2.2uF 20% 50V                             | C1532         | 1-164-159-11 | CERAMIC                                              | 0.1uF 50V<br>(EXCEPT GR7: EA4, SAF, TH)    |
| C398     | 1-126-961-11 | ELECT       | 2.2uF 20% 50V                             | C1532         | 1-164-159-21 | CERAMIC                                              | 0.1uF 50V<br>(GR7: EA4, SAF, TH)           |
| C903     | 1-136-165-00 | FILM        | 0.1uF 5% 50V                              | C1533         | 1-164-159-11 | CERAMIC                                              | 0.1uF 50V<br>(EXCEPT GR7: EA4, SAF, TH)    |
| C904     | 1-126-937-11 | ELECT       | 4700uF 20% 16V                            | C1533         | 1-164-159-21 | CERAMIC                                              | 0.1uF 50V<br>(GR7: EA4, SAF, TH)           |
| C906     | 1-126-933-11 | ELECT       | 100uF 20% 10V                             | C1534         | 1-126-935-11 | ELECT                                                | 470uF 20% 16V                              |
| C909     | 1-126-964-11 | ELECT       | 10uF 20% 50V                              | C1551         | 1-130-479-00 | MYLAR                                                | 0.0047uF 5% 50V                            |
| C910     | 1-126-933-11 | ELECT       | 100uF 20% 10V                             | C1552         | 1-162-290-31 | CERAMIC                                              | 470PF 10% 50V                              |
| C911     | 1-126-964-11 | ELECT       | 10uF 20% 50V                              | C1553         | 1-164-159-11 | CERAMIC                                              | 0.1uF 50V<br>(EXCEPT GR7: EA4, SAF, TH)    |
| C912     | 1-126-916-11 | ELECT       | 1000uF 20% 6.3V                           | C1553         | 1-164-159-21 | CERAMIC                                              | 0.1uF 50V<br>(GR7: EA4, SAF, TH)           |
| C913     | 1-126-943-11 | ELECT       | 2200uF 20% 25V                            | C1554         | 1-126-960-11 | ELECT                                                | 1uF 20% 50V                                |
| C914     | 1-126-952-11 | ELECT       | 1000uF 20% 16V                            | C1555         | 1-126-964-11 | ELECT                                                | 10uF 20% 50V                               |
| C915     | 1-126-967-11 | ELECT       | 47uF 20% 16V                              | C1556         | 1-126-964-11 | ELECT                                                | 10uF 20% 50V                               |
| C916     | 1-164-159-11 | CERAMIC     | 0.1uF 50V<br>(EXCEPT GR7: EA4, SAF, TH)   | C1557         | 1-126-960-11 | ELECT                                                | 1uF 20% 50V                                |
| C916     | 1-164-159-21 | CERAMIC     | 0.1uF 50V<br>(GR7: EA4, SAF, TH)          | C1558         | 1-126-933-11 | ELECT                                                | 100uF 20% 10V                              |
| C917     | 1-126-968-11 | ELECT       | 100uF 20% 50V                             | < CONNECTOR > |              |                                                      |                                            |
| C918     | 1-126-968-11 | ELECT       | 100uF 20% 50V                             | CN101         | 1-778-982-11 | CONNECTOR, BOARD TO BOARD 13P                        |                                            |
| C919     | 1-126-964-11 | ELECT       | 10uF 20% 50V                              | * CN102       | 1-568-836-11 | SOCKET, CONNECTOR 17P                                |                                            |
| C920     | 1-126-947-11 | ELECT       | 47uF 20% 35V                              | CN105         | 1-564-506-11 | PLUG, CONNECTOR 3P                                   |                                            |
| C953     | 1-136-165-00 | FILM        | 0.1uF 5% 50V                              |               |              | (D60/GR7/GR7J/RX70: US, CND)                         |                                            |
| C954     | 1-126-768-11 | ELECT       | 2200uF 20% 16V                            | * CN201       | 1-568-832-11 | SOCKET, CONNECTOR 13P                                |                                            |
| C956     | 1-126-933-11 | ELECT       | 100uF 20% 10V                             |               |              | (D60/GR7: EA4, E2, MX, TH, AUS/RX70: US, CND)        |                                            |
| C1501    | 1-130-479-00 | MYLAR       | 0.0047uF 5% 50V                           | * CN201       | 1-568-834-11 | SOCKET, CONNECTOR 15P                                |                                            |
| C1502    | 1-162-290-31 | CERAMIC     | 470PF 10% 50V                             |               |              | (EXCEPT D60/GR7: EA4, E2, MX, TH, AUS/RX70: US, CND) |                                            |
| C1503    | 1-164-159-11 | CERAMIC     | 0.1uF 50V<br>(EXCEPT GR7: EA4, SAF, TH)   | * CN202       | 1-568-862-11 | SOCKET, CONNECTOR 19P                                |                                            |
| C1503    | 1-164-159-21 | CERAMIC     | 0.1uF 50V<br>(GR7: EA4, SAF, TH)          | * CN203       | 1-568-946-11 | PIN, CONNECTOR 8P                                    |                                            |
| C1504    | 1-126-160-11 | ELECT       | 1uF 20% 50V<br>(EXCEPT GR7: EA4, SAF, TH) |               |              |                                                      |                                            |



| Ref. No.  | Part No.     | Description                                     | Remark | Ref. No.     | Part No.     | Description                                             | Remark |
|-----------|--------------|-------------------------------------------------|--------|--------------|--------------|---------------------------------------------------------|--------|
| * CN204   | 1-568-947-11 | PIN, CONNECTOR 9P                               |        | D909         | 8-719-024-99 | DIODE 11ES2-NTA2B<br>(EXCEPT GR7: EA4, SAF, TH)         |        |
| CN205     | 1-568-838-11 | SOCKET, CONNECTOR 21P                           |        | D909         | 8-719-200-82 | DIODE 11ES2 (GR7: EA4, SAF, TH)                         |        |
| * CN206   | 1-568-830-11 | SOCKET, CONNECTOR 11P                           |        | D910         | 8-719-002-60 | DIODE UZL-33L                                           |        |
| * CN207   | 1-568-449-11 | HOUSING, CONNECTOR(PC BOARD)3P                  |        | D911         | 8-719-010-43 | DIODE UZ-5.6BSC                                         |        |
| < DIODE > |              |                                                 |        | D912         | 8-719-987-63 | DIODE 1N4148M                                           |        |
| D141      | 8-719-987-63 | DIODE 1N4148M                                   |        | D913         | 8-719-024-99 | DIODE 11ES2-NTA2B<br>(EXCEPT GR7: EA4, SAF, TH)         |        |
| D191      | 8-719-815-85 | DIODE 1S1585 (D60/RX70: US, CND)                |        | D913         | 8-719-200-82 | DIODE 11ES2 (GR7: EA4, SAF, TH)                         |        |
| D191      | 8-719-987-63 | DIODE 1N4148M<br>(EXCEPT D60/RX70: US, CND)     |        | D914         | 8-719-024-99 | DIODE 11ES2-NTA2B<br>(EXCEPT GR7: EA4, SAF, TH)         |        |
| D192      | 8-719-815-85 | DIODE 1S1585 (D60/RX70: US, CND)                |        | D914         | 8-719-200-82 | DIODE 11ES2 (GR7: EA4, SAF, TH)                         |        |
| D192      | 8-719-987-63 | DIODE 1N4148M<br>(EXCEPT D60/RX70: US, CND)     |        | D915         | 8-719-001-42 | DIODE UZL-11M1 (EXCEPT GR7: EA4, SAF, TH)               |        |
| D281      | 8-719-815-85 | DIODE 1S1585 (D60/RX70: US, CND)                |        | D915         | 8-719-001-43 | DIODE UZL-11M1-TA (GR7: EA4, SAF, TH)                   |        |
| D281      | 8-719-987-63 | DIODE 1N4148M<br>(EXCEPT D60/RX70: US, CND)     |        | D951         | 8-719-987-63 | DIODE 1N4148M                                           |        |
| D291      | 8-719-987-63 | DIODE 1N4148M                                   |        | D952         | 8-719-987-63 | DIODE 1N4148M                                           |        |
| D301      | 8-719-024-99 | DIODE 11ES2-NTA2B<br>(EXCEPT GR7: EA4, SAF, TH) |        | < INDUCTOR > |              |                                                         |        |
| D301      | 8-719-200-82 | DIODE 11ES2 (GR7: EA4, SAF, TH)                 |        | FB302        | 1-412-473-21 | INDUCTOR (SMALL TYPE)                                   |        |
| D302      | 8-719-024-99 | DIODE 11ES2-NTA2B<br>(EXCEPT GR7: EA4, SAF, TH) |        | < IC >       |              |                                                         |        |
| D302      | 8-719-200-82 | DIODE 11ES2 (GR7: EA4, SAF, TH)                 |        | IC102        | 8-759-000-48 | IC MC14052BCP                                           |        |
| D303      | 8-719-987-63 | DIODE 1N4148M                                   |        | IC201        | 8-759-331-39 | IC M62427FP                                             |        |
| D304      | 8-719-987-63 | DIODE 1N4148M                                   |        | IC231        | 8-759-634-50 | IC M5218AL                                              |        |
| D305      | 8-719-987-63 | DIODE 1N4148M                                   |        | IC241        | 8-759-634-50 | IC M5218AL (GR7/GR7J/RX70: US, CND)                     |        |
| D306      | 8-719-987-63 | DIODE 1N4148M                                   |        | IC281        | 8-759-111-68 | IC uPC1237HA                                            |        |
| D307      | 8-719-987-63 | DIODE 1N4148M                                   |        | IC301        | 8-759-447-26 | IC uPD780018YGF-011-3BA                                 |        |
| D902      | 8-719-024-99 | DIODE 11ES2-NTA2B<br>(EXCEPT GR7: EA4, SAF, TH) |        | IC302        | 8-759-635-63 | IC M51943BSL                                            |        |
| D902      | 8-719-200-82 | DIODE 11ES2 (GR7: EA4, SAF, TH)                 |        | IC391        | 8-749-923-04 | IC TOTX178 (EXCEPT D60/RX70: US)                        |        |
| D903      | 8-719-024-99 | DIODE 11ES2-NTA2B<br>(EXCEPT GR7: EA4, SAF, TH) |        | IC901        | 8-759-288-53 | IC LA5617                                               |        |
| D903      | 8-719-200-82 | DIODE 11ES2 (GR7: EA4, SAF, TH)                 |        | IC902        | 8-759-604-86 | IC M5F7807L                                             |        |
| D904      | 8-719-024-99 | DIODE 11ES2-NTA2B<br>(EXCEPT GR7: EA4, SAF, TH) |        | IC903        | 8-759-231-53 | IC TA7805S                                              |        |
| D904      | 8-719-200-82 | DIODE 11ES2 (GR7: EA4, SAF, TH)                 |        | IC904        | 8-759-231-58 | IC TA7812S                                              |        |
| D905      | 8-719-024-99 | DIODE 11ES2-NTA2B<br>(EXCEPT GR7: EA4, SAF, TH) |        | IC1501       | 8-759-363-21 | IC HA12203NT                                            |        |
| D905      | 8-719-200-82 | DIODE 11ES2 (GR7: EA4, SAF, TH)                 |        | IC1502       | 8-759-822-09 | IC LB1641                                               |        |
| D906      | 8-719-024-99 | DIODE 11ES2-NTA2B<br>(EXCEPT GR7: EA4, SAF, TH) |        | < JACK >     |              |                                                         |        |
| D906      | 8-719-200-82 | DIODE 11ES2 (GR7: EA4, SAF, TH)                 |        | J101         | 1-695-188-31 | JACK, PIN 4P (VIDEO/MD)                                 |        |
| D907      | 8-719-024-99 | DIODE 11ES2-NTA2B<br>(EXCEPT GR7: EA4, SAF, TH) |        | J241         | 1-774-785-11 | JACK, PIN 1P (SUPER WOOFER)<br>(GR7/GR7J/RX70: US, CND) |        |
| D907      | 8-719-200-82 | DIODE 11ES2 (GR7: EA4, SAF, TH)                 |        | < COIL >     |              |                                                         |        |
| D908      | 8-719-024-99 | DIODE 11ES2-NTA2B<br>(EXCEPT GR7: EA4, SAF, TH) |        | L131         | 1-420-872-00 | COIL, AIR-CORE<br>(RX70: AEP, AED, CIS, EE, G, UK)      |        |
| D908      | 8-719-200-82 | DIODE 11ES2 (GR7: EA4, SAF, TH)                 |        | L181         | 1-420-872-00 | COIL, AIR-CORE<br>(RX70: AEP, AED, CIS, EE, G, UK)      |        |
|           |              |                                                 |        | L301         | 1-408-117-00 | INDUCTOR 10uH                                           |        |
|           |              |                                                 |        | L392         | 1-410-521-11 | INDUCTOR 100uH (EXCEPT D60/RX70: US)                    |        |

# MAIN

| Ref. No. | Part No.     | Description                  | Remark | Ref. No. | Part No.     | Description                      | Remark |
|----------|--------------|------------------------------|--------|----------|--------------|----------------------------------|--------|
| L393     | 1-410-515-11 | INDUCTOR 33uH                |        | R124     | 1-249-429-11 | CARBON 10K 5% 1/4W               |        |
|          |              | < TRANSISTOR >               |        | R125     | 1-249-441-11 | CARBON 100K 5% 1/4W              |        |
| Q101     | 8-729-141-30 | TRANSISTOR 2SC3623A-LK       |        | R126     | 1-249-417-11 | CARBON 1K 5% 1/4W                |        |
| Q102     | 8-729-900-63 | TRANSISTOR DTA124ES          |        | R127     | 1-249-441-11 | CARBON 100K 5% 1/4W              |        |
| Q103     | 8-729-900-36 | TRANSISTOR DTC124ES          |        | R131     | 1-260-076-11 | CARBON 10 5% 1/2W                |        |
| Q141     | 8-729-119-76 | TRANSISTOR 2SA1175-HFE       |        |          |              | (RX70: AEP, AED, CIS, EE, G, UK) |        |
|          |              | (EXCEPT D60/RX70: US, CND)   |        | R132     | 1-260-076-11 | CARBON 10 5% 1/2W                |        |
| Q141     | 8-729-140-82 | TRANSISTOR 2SA988-PAFAEA     |        |          |              | (RX70: AEP, AED, CIS, EE, G, UK) |        |
|          |              | (D60/RX70:US, CND)           |        | R133     | 1-260-091-11 | CARBON 220 5% 1/2W               |        |
| Q142     | 8-729-119-78 | TRANSISTOR 2SC403SP-51       |        | R134     | 1-260-091-11 | CARBON 220 5% 1/2W               |        |
|          |              | (EXCEPT D60/RX70: US, CND)   |        | R140     | 1-249-429-11 | CARBON 10K 5% 1/4W               |        |
| Q142     | 8-729-140-84 | TRANSISTOR 2SC1841-PAFAEA    |        | R141     | 1-249-437-11 | CARBON 47K 5% 1/4W               |        |
|          |              | (D60/RX70:US, CND)           |        | R142     | 1-249-429-11 | CARBON 10K 5% 1/4W               |        |
| Q151     | 8-729-141-30 | TRANSISTOR 2SC3623A-LK       |        | △R147    | 1-215-891-11 | METAL OXIDE 680 5% 2W            | F      |
| Q191     | 8-729-119-76 | TRANSISTOR 2SA1175-HFE       |        |          |              | (RX70: AEP, AED, CIS, EE, G, UK) |        |
|          |              | (D60/GR7/GR7J/RX70: US, CND) |        | △R147    | 1-215-893-11 | METAL OXIDE 1.5K 5% 2W           | F      |
| Q192     | 8-729-111-29 | TRANSISTOR 2SD1616A-K        |        |          |              | (D60/RX70: US, CND)              |        |
|          |              | (D60/GR7/GR7J/RX70: US, CND) |        | △R147    | 1-216-456-00 | METAL OXIDE 820 5% 2W            | F      |
|          |              |                              |        |          |              | (GR7/GR7J)                       |        |
| Q202     | 8-729-119-78 | TRANSISTOR 2SC403SP-51       |        | R171     | 1-249-424-11 | CARBON 3.9K 5% 1/4W              |        |
| Q203     | 8-729-119-78 | TRANSISTOR 2SC403SP-51       |        | R172     | 1-247-887-00 | CARBON 220K 5% 1/4W              |        |
| Q204     | 8-729-141-30 | TRANSISTOR 2SC3623A-LK       |        | R173     | 1-249-426-11 | CARBON 5.6K 5% 1/4W              |        |
| Q231     | 8-729-900-63 | TRANSISTOR DTA124ES          |        |          |              |                                  |        |
| Q232     | 8-729-900-63 | TRANSISTOR DTA124ES          |        | R174     | 1-249-429-11 | CARBON 10K 5% 1/4W               |        |
|          |              |                              |        | R176     | 1-249-417-11 | CARBON 1K 5% 1/4W                |        |
| Q241     | 8-729-141-30 | TRANSISTOR 2SC3623A-LK       |        | R177     | 1-249-441-11 | CARBON 100K 5% 1/4W              |        |
|          |              | (GR7/GR7J/RX70: US, CND)     |        | R181     | 1-260-076-11 | CARBON 10 5% 1/2W                |        |
| Q252     | 8-729-119-78 | TRANSISTOR 2SC403SP-51       |        |          |              | (RX70: AEP, AED, CIS, EE, G, UK) |        |
| Q253     | 8-729-119-78 | TRANSISTOR 2SC403SP-51       |        | R182     | 1-260-076-11 | CARBON 10 5% 1/2W                |        |
| Q254     | 8-729-141-30 | TRANSISTOR 2SC3623A-LK       |        |          |              | (RX70: AEP, AED, CIS, EE, G, UK) |        |
| Q281     | 8-729-900-36 | TRANSISTOR DTC124ES          |        |          |              |                                  |        |
|          |              |                              |        | R183     | 1-260-091-11 | CARBON 220 5% 1/2W               |        |
| Q282     | 8-729-900-63 | TRANSISTOR DTA124ES          |        | R184     | 1-260-091-11 | CARBON 220 5% 1/2W               |        |
| Q283     | 8-729-900-36 | TRANSISTOR DTC124ES          |        | R191     | 1-249-425-11 | CARBON 4.7K 5% 1/4W              |        |
| Q301     | 8-729-119-78 | TRANSISTOR 2SC403SP-51       |        |          |              | (D60/GR7/GR7J/RX70: US, CND)     |        |
| Q901     | 8-729-040-20 | TRANSISTOR RT1P137L-TP       |        | R192     | 1-249-441-11 | CARBON 100K 5% 1/4W              |        |
| Q902     | 8-729-900-36 | TRANSISTOR DTC124ES          |        |          |              | (D60/GR7/GR7J/RX70: US, CND)     |        |
|          |              |                              |        | R193     | 1-249-421-11 | CARBON 2.2K 5% 1/4W              |        |
|          |              |                              |        |          |              | (D60/GR7/GR7J/RX70: US, CND)     |        |
| Q903     | 8-729-030-18 | TRANSISTOR 2SD2525           |        |          |              |                                  |        |
| Q904     | 8-729-030-19 | TRANSISTOR 2SB1640           |        | R194     | 1-249-437-11 | CARBON 47K 5% 1/4W               |        |
| Q905     | 8-729-040-20 | TRANSISTOR RT1P137L-TP       |        |          |              | (D60/GR7/GR7J/RX70: US, CND)     |        |
| Q906     | 8-729-900-63 | TRANSISTOR DTA124ES          |        | R195     | 1-249-437-11 | CARBON 47K 5% 1/4W               |        |
| Q907     | 8-729-119-78 | TRANSISTOR 2SC403SP-51       |        |          |              | (D60/GR7/GR7J/RX70: US, CND)     |        |
|          |              |                              |        | R201     | 1-249-429-11 | CARBON 10K 5% 1/4W               |        |
| Q1531    | 8-729-801-93 | TRANSISTOR 2SD1387           |        | R202     | 1-247-863-91 | CARBON 22K 5% 1/4W               |        |
| Q1532    | 8-729-900-80 | TRANSISTOR DTC114ES          |        |          |              | (GR7: EA4, SAF, TH)              |        |
| Q1533    | 8-729-900-80 | TRANSISTOR DTC114ES          |        | R202     | 1-249-433-11 | CARBON 22K 5% 1/4W               |        |
| Q1534    | 8-729-119-77 | TRANSISTOR 2SA1175-FEK       |        |          |              | (EXCEPT GR7: EA4, SAF, TH)       |        |
| Q1535    | 8-729-900-80 | TRANSISTOR DTC114ES          |        |          |              |                                  |        |
|          |              | < RESISTOR >                 |        | R203     | 1-249-441-11 | CARBON 100K 5% 1/4W              |        |
| R121     | 1-249-424-11 | CARBON 3.9K 5% 1/4W          |        | R205     | 1-247-863-91 | CARBON 22K 5% 1/4W               |        |
| R122     | 1-247-887-00 | CARBON 220K 5% 1/4W          |        |          |              | (GR7: EA4, SAF, TH)              |        |
| R123     | 1-249-426-11 | CARBON 5.6K 5% 1/4W          |        | R205     | 1-249-433-11 | CARBON 22K 5% 1/4W               |        |
|          |              |                              |        |          |              | (EXCEPT GR7: EA4, SAF, TH)       |        |

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

| Ref. No. | Part No.     | Description | Remark |    |                            | Ref. No. | Part No.     | Description | Remark                     |    |      |
|----------|--------------|-------------|--------|----|----------------------------|----------|--------------|-------------|----------------------------|----|------|
| R206     | 1-249-421-11 | CARBON      | 2.2K   | 5% | 1/4W                       | R266     | 1-249-429-11 | CARBON      | 10K                        | 5% | 1/4W |
| R207     | 1-249-431-11 | CARBON      | 15K    | 5% | 1/4W                       | R267     | 1-249-437-11 | CARBON      | 47K                        | 5% | 1/4W |
|          |              |             |        |    |                            | R271     | 1-249-425-11 | CARBON      | 4.7K                       | 5% | 1/4W |
| R208     | 1-249-437-11 | CARBON      | 47K    | 5% | 1/4W                       |          |              |             |                            |    |      |
| R209     | 1-249-441-11 | CARBON      | 100K   | 5% | 1/4W                       | R272     | 1-249-425-11 | CARBON      | 4.7K                       | 5% | 1/4W |
| R210     | 1-247-903-00 | CARBON      | 1M     | 5% | 1/4W                       | R276     | 1-249-421-11 | CARBON      | 2.2K                       | 5% | 1/4W |
| R212     | 1-249-419-11 | CARBON      | 1.5K   | 5% | 1/4W                       | R277     | 1-249-441-11 | CARBON      | 100K                       | 5% | 1/4W |
| R213     | 1-247-863-91 | CARBON      | 22K    | 5% | 1/4W                       | R278     | 1-249-429-11 | CARBON      | 10K                        | 5% | 1/4W |
|          |              |             |        |    | (GR7: EA4, SAF, TH)        | R281     | 1-249-425-11 | CARBON      | 4.7K                       | 5% | 1/4W |
| R213     | 1-249-433-11 | CARBON      | 22K    | 5% | 1/4W                       |          |              |             | (EXCEPT D60/RX70: US, CND) |    |      |
|          |              |             |        |    | (EXCEPT GR7: EA4, SAF, TH) |          |              |             |                            |    |      |
| R214     | 1-247-887-00 | CARBON      | 220K   | 5% | 1/4W                       | R281     | 1-249-429-11 | CARBON      | 10K                        | 5% | 1/4W |
| R215     | 1-247-903-00 | CARBON      | 1M     | 5% | 1/4W                       |          |              |             | (D60/RX70: US, CND)        |    |      |
| R216     | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W                       | R282     | 1-249-425-11 | CARBON      | 4.7K                       | 5% | 1/4W |
| R217     | 1-249-437-11 | CARBON      | 47K    | 5% | 1/4W                       |          |              |             | (EXCEPT D60/RX70: US, CND) |    |      |
|          |              |             |        |    |                            | R282     | 1-249-429-11 | CARBON      | 10K                        | 5% | 1/4W |
|          |              |             |        |    |                            |          |              |             | (D60/RX70: US, CND)        |    |      |
| R221     | 1-249-425-11 | CARBON      | 4.7K   | 5% | 1/4W                       | R283     | 1-249-435-11 | CARBON      | 33K                        | 5% | 1/4W |
| R222     | 1-249-425-11 | CARBON      | 4.7K   | 5% | 1/4W                       | R284     | 1-247-791-91 | CARBON      | 22                         | 5% | 1/4W |
| R226     | 1-249-421-11 | CARBON      | 2.2K   | 5% | 1/4W                       |          |              |             | (GR7: EA4, SAF, TH)        |    |      |
| R227     | 1-249-441-11 | CARBON      | 100K   | 5% | 1/4W                       |          |              |             |                            |    |      |
| R228     | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W                       |          |              |             |                            |    |      |
|          |              |             |        |    |                            | R284     | 1-249-397-11 | CARBON      | 22                         | 5% | 1/4W |
|          |              |             |        |    |                            |          |              |             | (EXCEPT GR7: EA4, SAF, TH) |    |      |
| R231     | 1-249-437-11 | CARBON      | 47K    | 5% | 1/4W                       | R285     | 1-249-441-11 | CARBON      | 100K                       | 5% | 1/4W |
| R232     | 1-249-437-11 | CARBON      | 47K    | 5% | 1/4W                       | R286     | 1-249-429-11 | CARBON      | 10K                        | 5% | 1/4W |
| R234     | 1-247-886-11 | CARBON      | 200K   | 5% | 1/4W                       | R287     | 1-249-427-11 | CARBON      | 6.8K                       | 5% | 1/4W |
| R235     | 1-249-421-11 | CARBON      | 2.2K   | 5% | 1/4W                       |          |              |             | (EXCEPT RX70: US, CND)     |    |      |
| R236     | 1-249-441-11 | CARBON      | 100K   | 5% | 1/4W                       |          |              |             |                            |    |      |
|          |              |             |        |    |                            | R287     | 1-249-429-11 | CARBON      | 10K                        | 5% | 1/4W |
|          |              |             |        |    |                            |          |              |             | (RX70: US, CND)            |    |      |
| R241     | 1-249-437-11 | CARBON      | 47K    | 5% | 1/4W                       |          |              |             |                            |    |      |
|          |              |             |        |    | (GR7/GR7J/RX70: US, CND)   |          |              |             |                            |    |      |
| R242     | 1-247-843-11 | CARBON      | 3.3K   | 5% | 1/4W                       | R288     | 1-249-438-11 | CARBON      | 56K                        | 5% | 1/4W |
|          |              |             |        |    | (GR7/GR7J/RX70: US, CND)   | R289     | 1-249-437-11 | CARBON      | 47K                        | 5% | 1/4W |
| R243     | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W                       | R291     | 1-247-863-91 | CARBON      | 22K                        | 5% | 1/4W |
|          |              |             |        |    | (GR7/GR7J/RX70: US, CND)   |          |              |             | (GR7: EA4, SAF, TH)        |    |      |
| R244     | 1-249-417-11 | CARBON      | 1K     | 5% | 1/4W                       | R291     | 1-249-433-11 | CARBON      | 22K                        | 5% | 1/4W |
|          |              |             |        |    | (GR7/GR7J/RX70: US, CND)   |          |              |             | (EXCEPT GR7: EA4, SAF, TH) |    |      |
| R245     | 1-249-441-11 | CARBON      | 100K   | 5% | 1/4W                       | R292     | 1-247-863-91 | CARBON      | 22K                        | 5% | 1/4W |
|          |              |             |        |    | (GR7/GR7J/RX70: US, CND)   |          |              |             | (GR7: EA4, SAF, TH)        |    |      |
|          |              |             |        |    |                            |          |              |             |                            |    |      |
| R246     | 1-249-417-11 | CARBON      | 1K     | 5% | 1/4W                       | R292     | 1-249-433-11 | CARBON      | 22K                        | 5% | 1/4W |
|          |              |             |        |    | (GR7/GR7J/RX70: US, CND)   |          |              |             | (EXCEPT GR7: EA4, SAF, TH) |    |      |
| R247     | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W                       | R293     | 1-249-417-11 | CARBON      | 1K                         | 5% | 1/4W |
|          |              |             |        |    | (GR7/GR7J/RX70: US, CND)   | R294     | 1-249-441-11 | CARBON      | 100K                       | 5% | 1/4W |
| R253     | 1-249-441-11 | CARBON      | 100K   | 5% | 1/4W                       | R295     | 1-247-903-00 | CARBON      | 1M                         | 5% | 1/4W |
| R257     | 1-249-431-11 | CARBON      | 15K    | 5% | 1/4W                       | R301     | 1-249-417-11 | CARBON      | 1K                         | 5% | 1/4W |
| R258     | 1-249-437-11 | CARBON      | 47K    | 5% | 1/4W                       |          |              |             |                            |    |      |
|          |              |             |        |    |                            | R302     | 1-249-429-11 | CARBON      | 10K                        | 5% | 1/4W |
| R259     | 1-249-441-11 | CARBON      | 100K   | 5% | 1/4W                       | R303     | 1-249-437-11 | CARBON      | 47K                        | 5% | 1/4W |
| R260     | 1-247-903-00 | CARBON      | 1M     | 5% | 1/4W                       | R304     | 1-249-437-11 | CARBON      | 47K                        | 5% | 1/4W |
| R262     | 1-249-419-11 | CARBON      | 1.5K   | 5% | 1/4W                       | R305     | 1-249-429-11 | CARBON      | 10K                        | 5% | 1/4W |
| R263     | 1-247-863-91 | CARBON      | 22K    | 5% | 1/4W                       | R313     | 1-247-807-31 | CARBON      | 100                        | 5% | 1/4W |
|          |              |             |        |    | (GR7: EA4, SAF, TH)        |          |              |             |                            |    |      |
| R263     | 1-249-433-11 | CARBON      | 22K    | 5% | 1/4W                       | R316     | 1-249-429-11 | CARBON      | 10K                        | 5% | 1/4W |
|          |              |             |        |    | (EXCEPT GR7: EA4, SAF, TH) | R325     | 1-247-843-11 | CARBON      | 3.3K                       | 5% | 1/4W |
|          |              |             |        |    |                            |          |              |             | (RX70: AEP, AED, G, UK)    |    |      |
| R264     | 1-247-887-00 | CARBON      | 220K   | 5% | 1/4W                       | R325     | 1-249-425-11 | CARBON      | 4.7K                       | 5% | 1/4W |
| R265     | 1-247-903-00 | CARBON      | 1M     | 5% | 1/4W                       |          |              |             | (GR7: AUS)                 |    |      |

# MAIN

| Ref. No. | Part No.     | Description | Remark                           |    |      | Ref. No. | Part No.     | Description | Remark |    |                            |
|----------|--------------|-------------|----------------------------------|----|------|----------|--------------|-------------|--------|----|----------------------------|
| R325     | 1-249-427-11 | CARBON      | 6.8K                             | 5% | 1/4W | R381     | 1-247-807-31 | CARBON      | 100    | 5% | 1/4W                       |
|          |              |             | (GR7: E2, MX/RX70: CIS, EE)      |    |      | R384     | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W                       |
| R325     | 1-249-431-11 | CARBON      | 15K                              | 5% | 1/4W | R395     | 1-247-807-31 | CARBON      | 100    | 5% | 1/4W                       |
|          |              |             | (GR7: EA4, TH)                   |    |      | R396     | 1-249-435-11 | CARBON      | 33K    | 5% | 1/4W                       |
| R326     | 1-249-415-11 | CARBON      | 680                              | 5% | 1/4W | R397     | 1-247-807-31 | CARBON      | 100    | 5% | 1/4W                       |
|          |              |             | (GR7: EA4, TH)                   |    |      | R398     | 1-249-435-11 | CARBON      | 33K    | 5% | 1/4W                       |
| R326     | 1-249-425-11 | CARBON      | 4.7K                             | 5% | 1/4W | R417     | 1-249-441-11 | CARBON      | 100K   | 5% | 1/4W                       |
|          |              |             | (GR7: AR, E 2, MX)               |    |      | R913     | 1-247-815-91 | CARBON      | 220    | 5% | 1/4W                       |
| R326     | 1-249-427-11 | CARBON      | 6.8K                             | 5% | 1/4W |          |              |             |        |    | (GR7: EA4, SAF, TH)        |
|          |              |             | (GR7: AUS/RX70: AEP, AED, G, UK) |    |      | R913     | 1-249-409-11 | CARBON      | 220    | 5% | 1/4W                       |
| R326     | 1-249-433-11 | CARBON      | 22K                              | 5% | 1/4W |          |              |             |        |    | (EXCEPT GR7: EA4, SAF, TH) |
|          |              |             | (RX70: CIS, EE)                  |    |      | R914     | 1-249-417-11 | CARBON      | 1K     | 5% | 1/4W                       |
| R327     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R915     | 1-249-425-11 | CARBON      | 4.7K   | 5% | 1/4W                       |
| R328     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R916     | 1-247-815-91 | CARBON      | 220    | 5% | 1/4W                       |
| R330     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W |          |              |             |        |    | (GR7: EA4, SAF, TH)        |
| R331     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R916     | 1-249-409-11 | CARBON      | 220    | 5% | 1/4W                       |
| R332     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W |          |              |             |        |    | (EXCEPT GR7: EA4, SAF, TH) |
| R333     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R917     | 1-247-815-91 | CARBON      | 220    | 5% | 1/4W                       |
|          |              |             |                                  |    |      |          |              |             |        |    | (GR7: EA4, SAF, TH)        |
| R339     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R917     | 1-249-409-11 | CARBON      | 220    | 5% | 1/4W                       |
| R340     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W |          |              |             |        |    | (EXCEPT GR7: EA4, SAF, TH) |
| R341     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R918     | 1-249-425-11 | CARBON      | 4.7K   | 5% | 1/4W                       |
| R342     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R920     | 1-249-417-11 | CARBON      | 1K     | 5% | 1/4W                       |
| R343     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R921     | 1-247-895-00 | CARBON      | 470K   | 5% | 1/4W                       |
|          |              |             |                                  |    |      | R951     | 1-249-425-11 | CARBON      | 4.7K   | 5% | 1/4W                       |
| R344     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R952     | 1-249-425-11 | CARBON      | 4.7K   | 5% | 1/4W                       |
| R345     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R1501    | 1-249-435-11 | CARBON      | 33K    | 5% | 1/4W                       |
| R347     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R1502    | 1-249-417-11 | CARBON      | 1K     | 5% | 1/4W                       |
| R348     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R1503    | 1-249-426-11 | CARBON      | 5.6K   | 5% | 1/4W                       |
| R349     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R1504    | 1-247-840-00 | CARBON      | 2.4K   | 5% | 1/4W                       |
| R350     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R1505    | 1-247-863-91 | CARBON      | 22K    | 5% | 1/4W                       |
| R351     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W |          |              |             |        |    | (GR7: EA4, SAF, TH)        |
| R352     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R1505    | 1-249-433-11 | CARBON      | 22K    | 5% | 1/4W                       |
| R353     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W |          |              |             |        |    | (EXCEPT GR7: EA4, SAF, TH) |
| R354     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R1506    | 1-249-421-11 | CARBON      | 2.2K   | 5% | 1/4W                       |
| R355     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R1507    | 1-249-428-11 | CARBON      | 8.2K   | 5% | 1/4W                       |
| R356     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R1521    | 1-249-430-11 | CARBON      | 12K    | 5% | 1/4W                       |
| R357     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R1522    | 1-249-426-11 | CARBON      | 5.6K   | 5% | 1/4W                       |
| R358     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R1524    | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W                       |
| R359     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R1525    | 1-249-432-11 | CARBON      | 18K    | 5% | 1/4W                       |
| R361     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R1526    | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W                       |
| R362     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R1527    | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W                       |
| R363     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R1531    | 1-247-843-11 | CARBON      | 3.3K   | 5% | 1/4W                       |
| R364     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R1532    | 1-249-411-11 | CARBON      | 330    | 5% | 1/4W                       |
| R366     | 1-247-807-31 | CARBON      | 100                              | 5% | 1/4W | R1533    | 1-249-427-11 | CARBON      | 6.8K   | 5% | 1/4W                       |
| R367     | 1-249-429-11 | CARBON      | 10K                              | 5% | 1/4W | R1534    | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W                       |
| R368     | 1-247-843-11 | CARBON      | 3.3K                             | 5% | 1/4W | R1535    | 1-249-425-11 | CARBON      | 4.7K   | 5% | 1/4W                       |
| R370     | 1-249-429-11 | CARBON      | 10K                              | 5% | 1/4W | R1536    | 1-249-425-11 | CARBON      | 4.7K   | 5% | 1/4W                       |
| R371     | 1-249-429-11 | CARBON      | 10K                              | 5% | 1/4W | R1541    | 1-249-425-11 | CARBON      | 4.7K   | 5% | 1/4W                       |
| R372     | 1-249-429-11 | CARBON      | 10K                              | 5% | 1/4W | R1542    | 1-249-425-11 | CARBON      | 4.7K   | 5% | 1/4W                       |
| R373     | 1-249-429-11 | CARBON      | 10K                              | 5% | 1/4W |          |              |             |        |    |                            |

## MAIN

## MOTOR

## MOTOR (SLIDE)

## MOTOR (TURN)

| Ref. No. | Part No.     | Description                         | Remark                     |    |      |
|----------|--------------|-------------------------------------|----------------------------|----|------|
| R1543    | 1-249-425-11 | CARBON                              | 4.7K                       | 5% | 1/4W |
| R1544    | 1-249-417-11 | CARBON                              | 1K                         | 5% | 1/4W |
| R1545    | 1-249-437-11 | CARBON                              | 47K                        | 5% | 1/4W |
| R1546    | 1-249-437-11 | CARBON                              | 47K                        | 5% | 1/4W |
| R1547    | 1-249-437-11 | CARBON                              | 47K                        | 5% | 1/4W |
| R1548    | 1-249-437-11 | CARBON                              | 47K                        | 5% | 1/4W |
| R1551    | 1-247-863-91 | CARBON                              | 22K                        | 5% | 1/4W |
|          |              |                                     | (GR7: EA4, SAF, TH)        |    |      |
| R1551    | 1-249-433-11 | CARBON                              | 22K                        | 5% | 1/4W |
|          |              |                                     | (EXCEPT GR7: EA4, SAF, TH) |    |      |
| R1552    | 1-249-417-11 | CARBON                              | 1K                         | 5% | 1/4W |
| R1553    | 1-249-426-11 | CARBON                              | 5.6K                       | 5% | 1/4W |
| R1554    | 1-247-840-00 | CARBON                              | 2.4K                       | 5% | 1/4W |
| R1555    | 1-247-863-91 | CARBON                              | 22K                        | 5% | 1/4W |
|          |              |                                     | (GR7: EA4, SAF, TH)        |    |      |
| R1555    | 1-249-433-11 | CARBON                              | 22K                        | 5% | 1/4W |
|          |              |                                     | (EXCEPT GR7: EA4, SAF, TH) |    |      |
| R1556    | 1-249-421-11 | CARBON                              | 2.2K                       | 5% | 1/4W |
| R1557    | 1-249-428-11 | CARBON                              | 8.2K                       | 5% | 1/4W |
|          |              | < VARIABLE RESISTOR >               |                            |    |      |
| RV1501   | 1-238-598-11 | RES, ADJ, CARBON 2.2K               |                            |    |      |
| RV1551   | 1-238-598-11 | RES, ADJ, CARBON 2.2K               |                            |    |      |
|          |              | < RELAY >                           |                            |    |      |
| RY141    | 1-755-141-11 | RELAY (D60/RX70: US, CND)           |                            |    |      |
| RY141    | 1-755-126-11 | RELAY (EXCEPT D60/RX70: US, CND)    |                            |    |      |
|          |              | < TERMINAL >                        |                            |    |      |
| TM131    | 1-537-925-41 | TERMINAL BOARD (SPEAKER)            |                            |    |      |
| TM132    | 1-537-925-41 | TERMINAL BOARD (SURROUND SPEAKER)   |                            |    |      |
|          |              | (D60/RX70: US, CND)                 |                            |    |      |
|          |              | < VIBRATOR >                        |                            |    |      |
| X301     | 1-760-489-11 | VIBRATOR, CERAMIC (5MHz)            |                            |    |      |
| X302     | 1-567-098-41 | VIBRATOR, CRYSTAL (32.768kHz)       |                            |    |      |
|          |              | *****                               |                            |    |      |
|          |              | MOTOR BOARD                         |                            |    |      |
|          |              | *****                               |                            |    |      |
|          |              | (Included in AUDIO BOARD, COMPLETE) |                            |    |      |
|          |              | < CAPACITOR >                       |                            |    |      |
| C651     | 1-161-494-00 | CERAMIC                             | 0.022uF                    |    | 25V  |
|          |              | *****                               |                            |    |      |

| Ref. No. | Part No.     | Description                     | Remark |     |      |
|----------|--------------|---------------------------------|--------|-----|------|
| *        | 1-658-578-11 | MOTOR (SLIDE) BOARD             |        |     |      |
|          |              | *****                           |        |     |      |
|          |              | < CAPACITOR >                   |        |     |      |
| C801     | 1-162-306-11 | CERAMIC                         | 0.01uF | 20% | 16V  |
| C804     | 1-162-306-11 | CERAMIC                         | 0.01uF | 20% | 16V  |
| C805     | 1-126-964-11 | ELECT                           | 10uF   | 20% | 50V  |
|          |              | < CONNECTOR >                   |        |     |      |
| * CN801  | 1-568-947-11 | PIN, CONNECTOR 9P               |        |     |      |
|          |              | < DIODE >                       |        |     |      |
| D801     | 8-719-010-43 | DIODE UZ-5.6BSC                 |        |     |      |
| D804     | 8-719-987-63 | DIODE 1N4148M                   |        |     |      |
| D805     | 8-719-987-63 | DIODE 1N4148M                   |        |     |      |
|          |              | < IC >                          |        |     |      |
| IC801    | 8-759-274-09 | IC BA6286N                      |        |     |      |
|          |              | < RESISTOR >                    |        |     |      |
| R801     | 1-249-401-11 | CARBON                          | 47     | 5%  | 1/4W |
|          |              | < SWITCH >                      |        |     |      |
| S801     | 1-762-527-11 | SWITCH, ROTARY (OPEN/CLOSE DET) |        |     |      |
|          |              | *****                           |        |     |      |
| *        | 1-658-577-11 | MOTOR (TURN) BOARD              |        |     |      |
|          |              | *****                           |        |     |      |
|          |              | < CAPACITOR >                   |        |     |      |
| C701     | 1-162-306-11 | CERAMIC                         | 0.01uF | 20% | 16V  |
| C702     | 1-126-964-11 | ELECT                           | 10uF   | 20% | 50V  |
| C705     | 1-162-306-11 | CERAMIC                         | 0.01uF | 20% | 16V  |
|          |              | < CONNECTOR >                   |        |     |      |
| CN703    | 1-750-413-11 | CONNECTOR, FFC/FPC 8P           |        |     |      |
| CN704    | 1-506-469-11 | PIN, CONNECTOR 4P               |        |     |      |
|          |              | < DIODE >                       |        |     |      |
| D701     | 8-719-010-23 | DIODE UZ-3.6BSB                 |        |     |      |
|          |              | < IC >                          |        |     |      |
| IC701    | 8-759-633-65 | IC M54641L                      |        |     |      |
|          |              | < RESISTOR >                    |        |     |      |
| R706     | 1-249-411-11 | CARBON                          | 330    | 5%  | 1/4W |

# PANEL

# POWER AMP

| Ref. No.   | Part No.     | Description                      | Remark                     |    |      |
|------------|--------------|----------------------------------|----------------------------|----|------|
| R680       | 1-247-807-31 | CARBON                           | 100                        | 5% | 1/4W |
| R681       | 1-247-815-91 | CARBON                           | 220                        | 5% | 1/4W |
|            |              |                                  | (GR7: EA4, SAF, TH)        |    |      |
| R681       | 1-249-409-11 | CARBON                           | 220                        | 5% | 1/4W |
|            |              |                                  | (EXCEPT GR7: EA4, SAF, TH) |    |      |
| R685       | 1-249-419-11 | CARBON                           | 1.5K                       | 5% | 1/4W |
| R686       | 1-247-897-11 | CARBON                           | 560K                       | 5% | 1/4W |
| R687       | 1-249-437-11 | CARBON                           | 47K                        | 5% | 1/4W |
| R688       | 1-247-895-00 | CARBON                           | 470K                       | 5% | 1/4W |
| R689       | 1-249-419-11 | CARBON                           | 1.5K                       | 5% | 1/4W |
| R690       | 1-247-897-11 | CARBON                           | 560K                       | 5% | 1/4W |
| R691       | 1-249-437-11 | CARBON                           | 47K                        | 5% | 1/4W |
| R692       | 1-247-895-00 | CARBON                           | 470K                       | 5% | 1/4W |
| R693       | 1-249-419-11 | CARBON                           | 1.5K                       | 5% | 1/4W |
| R694       | 1-247-897-11 | CARBON                           | 560K                       | 5% | 1/4W |
| R695       | 1-249-437-11 | CARBON                           | 47K                        | 5% | 1/4W |
| R696       | 1-247-895-00 | CARBON                           | 470K                       | 5% | 1/4W |
| R698       | 1-247-897-11 | CARBON                           | 560K                       | 5% | 1/4W |
| R699       | 1-249-437-11 | CARBON                           | 47K                        | 5% | 1/4W |
| R700       | 1-247-895-00 | CARBON                           | 470K                       | 5% | 1/4W |
| R748       | 1-249-435-11 | CARBON                           | 33K                        | 5% | 1/4W |
| R749       | 1-247-895-00 | CARBON                           | 470K                       | 5% | 1/4W |
| < SWITCH > |              |                                  |                            |    |      |
| S601       | 1-467-968-11 | ENCODER, ROTARY (JOG)            |                            |    |      |
| S602       | 1-467-869-11 | ENCODER, ROTARY (VOLUME)         |                            |    |      |
| S604       | 1-762-196-21 | SWITCH, TACT (TIMER SELECT)      |                            |    |      |
| S605       | 1-762-196-21 | SWITCH, TACT (CLOCK TIMER SET)   |                            |    |      |
| S606       | 1-762-196-21 | SWITCH, TACT (DISPLAY/DEMO)      |                            |    |      |
| S607       | 1-762-196-21 | SWITCH, TACT (SPECTRAM ANALYZER) |                            |    |      |
| S608       | 1-762-196-21 | SWITCH, TACT (DOLBY NR)          |                            |    |      |
| S609       | 1-762-196-21 | SWITCH, TACT (DIRECTION)         |                            |    |      |
| S610       | 1-762-196-21 | SWITCH, TACT (EDIT)              |                            |    |      |
| S611       | 1-762-196-21 | SWITCH, TACT (REPEAT)            |                            |    |      |
| S612       | 1-762-196-21 | SWITCH, TACT (PLAY MODE)         |                            |    |      |
| S613       | 1-762-196-21 | SWITCH, TACT (1/ALL DISCS)       |                            |    |      |
| S614       | 1-762-196-21 | SWITCH, TACT (SLEEP)             |                            |    |      |
| S615       | 1-762-196-21 | SWITCH, TACT (P FILE MEMORY)     |                            |    |      |
| S616       | 1-762-196-21 | SWITCH, TACT (NON STOP)          |                            |    |      |
| S617       | 1-762-196-21 | SWITCH, TACT (LOW FREQUENCY)     |                            |    |      |
| S618       | 1-762-196-21 | SWITCH, TACT (HIGH FREQUENCY)    |                            |    |      |
| S620       | 1-762-196-21 | SWITCH, TACT (ENTER/NEXT)        |                            |    |      |
| S621       | 1-762-196-21 | SWITCH, TACT (GROOVE)            |                            |    |      |
| S622       | 1-762-196-21 | SWITCH, TACT (GAME)              |                            |    |      |
| S623       | 1-762-196-21 | SWITCH, TACT (MOVIE)             |                            |    |      |
| S624       | 1-762-196-21 | SWITCH, TACT (MUSIC)             |                            |    |      |
| S625       | 1-762-196-21 | SWITCH, TACT (P FILE)            |                            |    |      |
| S626       | 1-762-196-21 | SWITCH, TACT (WAVE)              |                            |    |      |
| S631       | 1-762-196-21 | SWITCH, TACT (SURROUND)          |                            |    |      |

| Ref. No.      | Part No.     | Description                         | Remark |     |      |
|---------------|--------------|-------------------------------------|--------|-----|------|
| S632          | 1-762-196-21 | SWITCH, TACT (DBFB)                 |        |     |      |
| S633          | 1-762-196-21 | SWITCH, TACT (TUNING MODE)          |        |     |      |
| S634          | 1-762-196-21 | SWITCH, TACT (STEREO/MONO)          |        |     |      |
| S635          | 1-762-196-21 | SWITCH, TACT (EFFECT ON/OFF)        |        |     |      |
| S636          | 1-762-196-21 | SWITCH, TACT (KARAOKE PON/MPX)      |        |     |      |
| S637          | 1-762-196-21 | SWITCH, TACT (TUNER/BAND)           |        |     |      |
| S638          | 1-762-196-21 | SWITCH, TACT (LOOP)                 |        |     |      |
| S639          | 1-762-196-21 | SWITCH, TACT (FLASH)                |        |     |      |
| S640          | 1-762-196-21 | SWITCH, TACT (TUNER MEMORY)         |        |     |      |
| S642          | 1-762-196-21 | SWITCH, TACT (FUNCTION)             |        |     |      |
| < VIBRATOR >  |              |                                     |        |     |      |
| X601          | 1-579-125-11 | VIBRATOR, CERAMIC (8MHz)            |        |     |      |
| *****         |              |                                     |        |     |      |
| *             | A-4392-330-A | POWER AMP BOARD, COMPLETE           |        |     |      |
|               |              | *****                               |        |     |      |
|               |              | (D60/RX70: US, CND)                 |        |     |      |
| *             | A-4392-331-A | POWER AMP BOARD, COMPLETE           |        |     |      |
|               |              | *****                               |        |     |      |
|               |              | (RX70: AEP, AED, CIS, EE, G, UK)    |        |     |      |
| *             | A-4392-332-A | POWER AMP BOARD, COMPLETE           |        |     |      |
|               |              | *****                               |        |     |      |
|               |              | (EXCEPT D60/GR7: EA4, SAF, TH/RX70) |        |     |      |
| *             | A-4392-843-A | POWER AMP BOARD, COMPLETE           |        |     |      |
|               |              | *****                               |        |     |      |
|               |              | (GR7: EA4, SAF, TH)                 |        |     |      |
| < CAPACITOR > |              |                                     |        |     |      |
| C801          | 1-124-720-11 | ELECT                               | 4.7uF  | 20% | 35V  |
|               |              | (EXCEPT D60/RX70: US, CND)          |        |     |      |
| C801          | 1-126-963-11 | ELECT                               | 4.7uF  | 20% | 50V  |
|               |              | (D60/RX70: US, CND)                 |        |     |      |
| C802          | 1-162-286-21 | CERAMIC                             | 220PF  | 10% | 50V  |
|               |              | (GR7: EA4, SAF, TH)                 |        |     |      |
| C802          | 1-162-286-31 | CERAMIC                             | 220PF  | 10% | 50V  |
|               |              | (EXCEPT GR7: EA4, SAF, TH)          |        |     |      |
| C803          | 1-162-282-31 | CERAMIC                             | 100PF  | 10% | 50V  |
| C804          | 1-126-967-11 | ELECT                               | 47uF   | 20% | 50V  |
| C806          | 1-126-967-11 | ELECT                               | 47uF   | 20% | 50V  |
| C807          | 1-126-965-11 | ELECT                               | 22uF   | 20% | 50V  |
| C809          | 1-126-965-11 | ELECT                               | 22uF   | 20% | 50V  |
|               |              | (RX70: AEP, AED, CIS, EE, G, UK)    |        |     |      |
| C809          | 1-128-560-11 | ELECT                               | 22uF   | 20% | 100V |
|               |              | (D60/GR7/GR7J/RX70: US, CND)        |        |     |      |
| C810          | 1-164-159-11 | CERAMIC                             | 0.1uF  |     | 50V  |
|               |              | (EXCEPT GR7: EA4, SAF, TH)          |        |     |      |
| C810          | 1-164-159-21 | CERAMIC                             | 0.1uF  |     | 50V  |
|               |              | (GR7: EA4, SAF, TH)                 |        |     |      |

# POWER AMP

| Ref. No.      | Part No.     | Description                      | Remark         | Ref. No.       | Part No.     | Description                        | Remark |
|---------------|--------------|----------------------------------|----------------|----------------|--------------|------------------------------------|--------|
| C811          | 1-130-493-00 | MYLAR                            | 0.068uF 5% 50V | IC801          | 8-749-920-09 | IC STK-4152MK2K                    |        |
| C812          | 1-130-493-00 | MYLAR                            | 0.068uF 5% 50V |                |              | (RX70: AEP, AED, CIS, EE, G, UK)   |        |
| C814          | 1-162-306-11 | CERAMIC                          | 0.01uF 20% 16V | IC801          | 8-749-922-65 | IC STK-4221MK2 (D60/RX70: US, CND) |        |
| C841          | 1-126-925-11 | ELECT                            | 470uF 20% 10V  | < TRANSISTOR > |              |                                    |        |
| C851          | 1-124-720-11 | ELECT                            | 4.7uF 20% 35V  | Q801           | 8-729-140-84 | TRANSISTOR 2SC1841-PAFAEA          |        |
|               |              | (EXCEPT D60/RX70: US, CND)       |                | Q831           | 8-729-900-36 | TRANSISTOR DTC124ES                |        |
| C851          | 1-126-963-11 | ELECT                            | 4.7uF 20% 50V  |                |              | (D60/GR7/GR7J/RX70: US, CND)       |        |
|               |              | (D60/RX70: US, CND)              |                | Q832           | 8-729-119-78 | TRANSISTOR 2SC403SP-51             |        |
| C852          | 1-162-286-21 | CERAMIC                          | 220PF 10% 50V  |                |              | (D60/GR7/GR7J/RX70: US, CND)       |        |
|               |              | (GR7: EA4, SAF, TH)              |                | Q851           | 8-729-140-84 | TRANSISTOR 2SC1841-PAFAEA          |        |
| C852          | 1-162-286-31 | CERAMIC                          | 220PF 10% 50V  | < RESISTOR >   |              |                                    |        |
|               |              | (EXCEPT GR7: EA4, SAF, TH)       |                | R801           | 1-249-417-11 | CARBON 1K 5% 1/4W                  |        |
| C853          | 1-162-282-31 | CERAMIC                          | 100PF 10% 50V  | R802           | 1-249-437-11 | CARBON 47K 5% 1/4W                 |        |
| C854          | 1-126-967-11 | ELECT                            | 47uF 20% 50V   | R803           | 1-249-413-11 | CARBON 470 5% 1/4W                 |        |
| C856          | 1-126-967-11 | ELECT                            | 47uF 20% 50V   |                |              | (D60/RX70: US, CND)                |        |
| C857          | 1-126-965-11 | ELECT                            | 22uF 20% 50V   | R803           | 1-249-415-11 | CARBON 680 5% 1/4W                 |        |
| C861          | 1-130-493-00 | MYLAR                            | 0.068uF 5% 50V |                |              | (EXCEPT D60/RX70: US, CND)         |        |
| C862          | 1-130-493-00 | MYLAR                            | 0.068uF 5% 50V | R804           | 1-249-437-11 | CARBON 47K 5% 1/4W                 |        |
| C901          | 1-104-482-11 | ELECT                            | 4700uF 20% 63V |                |              | (D60/RX70: US, CND)                |        |
|               |              | (D60/RX70: US, CND)              |                | R805           | 1-260-103-11 | CARBON 2.2K 5% 1/2W                |        |
| C901          | 1-126-974-11 | ELECT                            | 3300uF 20% 50V |                |              | (RX70: AEP, AED, CIS, EE, G, UK)   |        |
|               |              | (EXCEPT D60/RX70: US, CND)       |                | R805           | 1-260-105-11 | CARBON 3.3K 5% 1/2W                |        |
| C902          | 1-130-777-00 | FILM                             | 0.1uF 10% 100V |                |              | (GR7/GR7J)                         |        |
|               |              | (D60/RX70: US, CND)              |                | R805           | 1-260-107-11 | CARBON 4.7K 5% 1/2W                |        |
| C902          | 1-136-165-00 | FILM                             | 0.1uF 5% 50V   |                |              | (D60/RX70: US, CND)                |        |
|               |              | (EXCEPT D60/RX70: US, CND)       |                | R806           | 1-260-103-11 | CARBON 2.2K 5% 1/2W                |        |
| C951          | 1-104-482-11 | ELECT                            | 4700uF 20% 63V |                |              | (RX70: AEP, AED, CIS, EE, G, UK)   |        |
|               |              | (D60/RX70: US, CND)              |                | R806           | 1-260-105-11 | CARBON 3.3K 5% 1/2W                |        |
| C951          | 1-126-974-11 | ELECT                            | 3300uF 20% 50V |                |              | (GR7/GR7J)                         |        |
|               |              | (EXCEPT D60/RX70: US, CND)       |                | R806           | 1-260-107-11 | CARBON 4.7K 5% 1/2W                |        |
| C952          | 1-130-777-00 | FILM                             | 0.1uF 10% 100V |                |              | (D60/RX70: US, CND)                |        |
|               |              | (D60/RX70: US, CND)              |                | △R807          | 1-212-881-11 | FUSIBLE 100 5% 1/4W F              |        |
| C952          | 1-136-165-00 | FILM                             | 0.1uF 5% 50V   | △R808          | 1-208-601-11 | WIREWOUND 0.1 10% 2W F             |        |
|               |              | (EXCEPT D60/RX70: US, CND)       |                | R809           | 1-260-076-11 | CARBON 10 5% 1/2W                  |        |
| < CONNECTOR > |              |                                  |                | R811           | 1-249-417-11 | CARBON 1K 5% 1/4W                  |        |
| CN801         | 1-778-981-11 | CONNECTOR, BOARD TO BOARD 13P    |                | R812           | 1-247-863-91 | CARBON 22K 5% 1/4W                 |        |
|               |              |                                  |                |                |              | (GR7: EA4, SAF, TH)                |        |
| < DIODE >     |              |                                  |                | R812           | 1-249-433-11 | CARBON 22K 5% 1/4W                 |        |
| D801          | 8-719-987-63 | DIODE 1N4148M                    |                |                |              | (EXCEPT GR7: EA4, SAF, TH)         |        |
| D841          | 8-719-987-63 | DIODE 1N4148M                    |                | R813           | 1-249-441-11 | CARBON 100K 5% 1/4W                |        |
| D842          | 8-719-987-63 | DIODE 1N4148M                    |                | R814           | 1-260-099-11 | CARBON 1K 5% 1/2W                  |        |
| D851          | 8-719-987-63 | DIODE 1N4148M                    |                |                |              | (EXCEPT D60/RX70: US, CND)         |        |
| D901          | 8-719-028-23 | DIODE D3SBA20-4101               |                | R814           | 1-260-105-11 | CARBON 3.3K 5% 1/2W                |        |
|               |              | (RX70: AEP, AED, CIS, EE, G, UK) |                |                |              | (D60/RX70: US, CND)                |        |
| D901          | 8-719-510-68 | DIODE D5SBA20F01                 |                | R816           | 1-260-099-11 | CARBON 1K 5% 1/2W                  |        |
|               |              | (D60/GR7/GR7J/RX70: US, CND)     |                |                |              | (EXCEPT D60/RX70: US, CND)         |        |
| < IC >        |              |                                  |                | R816           | 1-260-105-11 | CARBON 3.3K 5% 1/2W                |        |
|               |              |                                  |                |                |              | (D60/RX70: US, CND)                |        |
| IC801         | 8-749-900-34 | IC STK-4182MK2 (GR7/GR7J)        |                | △R820          | 1-202-972-61 | FUSIBLE 1 5% 1/4W F                |        |
|               |              |                                  |                | R831           | 1-249-441-11 | CARBON 100K 5% 1/4W                |        |
|               |              |                                  |                |                |              | (D60/GR7/GR7J/RX70: US, CND)       |        |

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## POWER AMP

## SENSOR

## TC SW

| Ref. No.       | Part No.     | Description                                             | Remark |
|----------------|--------------|---------------------------------------------------------|--------|
| R832           | 1-249-441-11 | CARBON 100K 5% 1/4W<br>(D60/GR7/GR7J/RX70: US, CND)     |        |
| R833           | 1-249-441-11 | CARBON 100K 5% 1/4W<br>(D60/GR7/GR7J/RX70: US, CND)     |        |
| R841           | 1-249-426-11 | CARBON 5.6K 5% 1/4W<br>(D60/RX70: US, CND)              |        |
| R841           | 1-249-429-11 | CARBON 10K 5% 1/4W<br>(EXCEPT D60/RX70: US, CND)        |        |
| R842           | 1-247-881-00 | CARBON 120K 5% 1/4W<br>(RX70: AEP, AED, CIS, EE, G, UK) |        |
| R842           | 1-247-883-00 | CARBON 150K 5% 1/4W<br>(GR7/GR7J)                       |        |
| R842           | 1-247-891-00 | CARBON 330K 5% 1/4W<br>(D60/RX70: US, CND)              |        |
| R843           | 1-249-421-11 | CARBON 2.2K 5% 1/4W<br>(EXCEPT D60/RX70: US, CND)       |        |
| R843           | 1-249-427-11 | CARBON 6.8K 5% 1/4W<br>(D60/RX70: US, CND)              |        |
| R844           | 1-249-429-11 | CARBON 10K 5% 1/4W                                      |        |
| R851           | 1-249-417-11 | CARBON 1K 5% 1/4W                                       |        |
| R852           | 1-249-437-11 | CARBON 47K 5% 1/4W                                      |        |
| R853           | 1-249-413-11 | CARBON 470 5% 1/4W<br>(D60/RX70: US, CND)               |        |
| R853           | 1-249-415-11 | CARBON 680 5% 1/4W<br>(EXCEPT D60/RX70: US, CND)        |        |
| R854           | 1-249-437-11 | CARBON 47K 5% 1/4W                                      |        |
| R855           | 1-260-103-11 | CARBON 2.2K 5% 1/2W<br>(RX70: AEP, AED, CIS, EE, G, UK) |        |
| R855           | 1-260-105-11 | CARBON 3.3K 5% 1/2W<br>(GR7/GR7J)                       |        |
| R855           | 1-260-107-11 | CARBON 4.7K 5% 1/2W<br>(D60/RX70: US, CND)              |        |
| R856           | 1-260-103-11 | CARBON 2.2K 5% 1/2W<br>(RX70: AEP, AED, CIS, EE, G, UK) |        |
| R856           | 1-260-105-11 | CARBON 3.3K 5% 1/2W<br>(GR7/GR7J)                       |        |
| R856           | 1-260-107-11 | CARBON 4.7K 5% 1/2W<br>(D60/RX70: US, CND)              |        |
| △R857          | 1-212-881-11 | FUSIBLE 100 5% 1/4W F                                   |        |
| △R858          | 1-208-601-11 | WIREWOUND 0.1 10% 2W F                                  |        |
| R859           | 1-260-076-11 | CARBON 10 5% 1/2W                                       |        |
| R861           | 1-249-417-11 | CARBON 1K 5% 1/4W                                       |        |
| R862           | 1-247-863-91 | CARBON 22K 5% 1/4W<br>(GR7: EA4, SAF, TH)               |        |
| R862           | 1-249-433-11 | CARBON 22K 5% 1/4W<br>(EXCEPT GR7: EA4, SAF, TH)        |        |
| R863           | 1-249-441-11 | CARBON 100K 5% 1/4W                                     |        |
| < THERMISTOR > |              |                                                         |        |
| TH801          | 1-807-796-11 | THERMISTOR (D60/GR7/GR7J/RX70: US, CND)                 |        |

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| Ref. No.       | Part No.     | Description                                                  | Remark |
|----------------|--------------|--------------------------------------------------------------|--------|
| *              | 1-658-576-11 | SENSOR BOARD<br>*****<br>< IC >                              |        |
| IC702          | 8-749-924-18 | IC PHOTO INTERRUPTER RPI-1391                                |        |
| IC703          | 8-749-924-30 | IC PHOTO REFLECTOR GP2S28                                    |        |
| < RESISTOR >   |              |                                                              |        |
| R701           | 1-249-416-11 | CARBON 820 5% 1/4W                                           |        |
| R702           | 1-249-407-11 | CARBON 150 5% 1/4W                                           |        |
| *****          |              |                                                              |        |
| *              | A-4392-350-A | TC SW BOARD, COMPLETE<br>*****<br>(EXCEPT GR7: EA4, SAF, TH) |        |
| *              | A-4392-850-A | TC SW BOARD, COMPLETE (GR7: EA4, SAF, TH)<br>*****           |        |
| < CONNECTOR >  |              |                                                              |        |
| CN607          | 1-506-486-11 | PIN, CONNECTOR 7P                                            |        |
| < DIODE >      |              |                                                              |        |
| D634           | 8-719-063-92 | DIODE SLR325MC-M (▷: DECK B)                                 |        |
| D635           | 8-719-063-92 | DIODE SLR325MC-M (◁: DECK B)                                 |        |
| D636           | 8-719-063-91 | DIODE SLR325DC-P (■ PAUSE)                                   |        |
| D637           | 8-719-063-93 | DIODE SLR325VC-N (● REC)                                     |        |
| D638           | 8-719-063-92 | DIODE SLR325MC-M (▷: DECK A)                                 |        |
| D639           | 8-719-063-92 | DIODE SLR325MC-M (◁: DECK A)                                 |        |
| < TRANSISTOR > |              |                                                              |        |
| Q617           | 8-729-119-76 | TRANSISTOR 2SA1175-HFE                                       |        |
| Q618           | 8-729-119-76 | TRANSISTOR 2SA1175-HFE                                       |        |
| Q619           | 8-729-119-76 | TRANSISTOR 2SA1175-HFE                                       |        |
| < RESISTOR >   |              |                                                              |        |
| R726           | 1-249-401-11 | CARBON 47 5% 1/4W                                            |        |
| R727           | 1-249-403-11 | CARBON 68 5% 1/4W                                            |        |
| R728           | 1-247-807-31 | CARBON 100 5% 1/4W                                           |        |
| R729           | 1-249-407-11 | CARBON 150 5% 1/4W                                           |        |
| R730           | 1-249-407-11 | CARBON 150 5% 1/4W                                           |        |
| R731           | 1-247-815-91 | CARBON 220 5% 1/4W<br>(GR7: EA4, SAF, TH)                    |        |
| R731           | 1-249-409-11 | CARBON 220 5% 1/4W<br>(EXCEPT GR7: EA4, SAF, TH)             |        |
| R732           | 1-249-411-11 | CARBON 330 5% 1/4W                                           |        |
| R733           | 1-249-413-11 | CARBON 470 5% 1/4W                                           |        |
| R734           | 1-249-415-11 | CARBON 680 5% 1/4W                                           |        |

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TC SW

TCB

| Ref. No.                           | Part No.     | Description                       | Remark   |     |                            | Ref. No.   | Part No.     | Description     | Remark   |     |     |
|------------------------------------|--------------|-----------------------------------|----------|-----|----------------------------|------------|--------------|-----------------|----------|-----|-----|
| R735                               | 1-249-417-11 | CARBON                            | 1K       | 5%  | 1/4W                       | C24        | 1-163-239-11 | CHIP CERAMIC    | 33PF     | 5%  | 50V |
| R736                               | 1-249-419-11 | CARBON                            | 1.5K     | 5%  | 1/4W                       | C26        | 1-126-967-11 | ELECT           | 47uF     | 20% | 16V |
| R737                               | 1-249-421-11 | CARBON                            | 2.2K     | 5%  | 1/4W                       | C28        | 1-126-967-11 | ELECT           | 47uF     | 20% | 16V |
| R738                               | 1-247-843-11 | CARBON                            | 3.3K     | 5%  | 1/4W                       | C29        | 1-162-306-11 | CERAMIC         | 0.01uF   | 20% | 16V |
| R739                               | 1-249-427-11 | CARBON                            | 6.8K     | 5%  | 1/4W                       | C30        | 1-126-961-11 | ELECT           | 2.2uF    | 20% | 50V |
| R740                               | 1-247-807-31 | CARBON                            | 100      | 5%  | 1/4W                       | C31        | 1-163-031-11 | CERAMIC         | 10000PF  |     | 50V |
| R741                               | 1-247-807-31 | CARBON                            | 100      | 5%  | 1/4W                       | C32        | 1-163-038-91 | CERAMIC         | 100000PF |     | 25V |
| R742                               | 1-247-807-31 | CARBON                            | 100      | 5%  | 1/4W                       | C33        | 1-163-038-91 | CERAMIC         | 100000PF |     | 25V |
| R743                               | 1-247-815-91 | CARBON                            | 220      | 5%  | 1/4W                       | C34        | 1-163-229-11 | CHIP CERAMIC    | 12PF     | 5%  | 50V |
|                                    |              |                                   |          |     | (GR7: EA4, SAF, TH)        | C35        | 1-163-038-91 | CERAMIC         | 100000PF |     | 25V |
| R743                               | 1-249-409-11 | CARBON                            | 220      | 5%  | 1/4W                       | C36        | 1-163-141-00 | CERAMIC CHIP    | 0.001uF  | 5%  | 50V |
|                                    |              |                                   |          |     | (EXCEPT GR7: EA4, SAF, TH) | C37        | 1-163-141-00 | CERAMIC CHIP    | 0.001uF  | 5%  | 50V |
| R744                               | 1-247-807-31 | CARBON                            | 100      | 5%  | 1/4W                       | C39        | 1-163-141-00 | CERAMIC CHIP    | 0.001uF  | 5%  | 50V |
| R745                               | 1-247-807-31 | CARBON                            | 100      | 5%  | 1/4W                       | C40        | 1-163-031-11 | CERAMIC         | 10000PF  |     | 50V |
| < SWITCH >                         |              |                                   |          |     |                            | C41        | 1-163-031-11 | CERAMIC         | 10000PF  |     | 50V |
| S655                               | 1-762-196-21 | SWITCH, TACT (▷: DECK A)          |          |     |                            | C42        | 1-163-038-91 | CERAMIC         | 100000PF |     | 25V |
| S656                               | 1-762-196-21 | SWITCH, TACT (◁: DECK A)          |          |     |                            | C43        | 1-163-038-91 | CERAMIC         | 100000PF |     | 25V |
| S657                               | 1-762-196-21 | SWITCH, TACT (▶▶: DECK A)         |          |     |                            | C44        | 1-163-031-11 | CERAMIC         | 10000PF  |     | 50V |
| S658                               | 1-762-196-21 | SWITCH, TACT (◀◀: DECK A)         |          |     |                            | C45        | 1-163-038-91 | CERAMIC         | 100000PF |     | 25V |
| S659                               | 1-762-196-21 | SWITCH, TACT (■: DECK A)          |          |     |                            | C46        | 1-163-077-00 | CERAMIC CHIP    | 0.1uF    | 10% | 25V |
| S660                               | 1-762-196-21 | SWITCH, TACT (■: PAUSE)           |          |     |                            | C47        | 1-126-967-11 | ELECT           | 47uF     | 20% | 16V |
| S661                               | 1-762-196-21 | SWITCH, TACT (●: REC)             |          |     |                            | C48        | 1-163-031-11 | CERAMIC         | 10000PF  |     | 50V |
| S662                               | 1-762-196-21 | SWITCH, TACT (CD SYNCHRO)         |          |     |                            | C49        | 1-126-959-11 | ELECT           | 0.47uF   | 20% | 50V |
| S663                               | 1-762-196-21 | SWITCH, TACT (HIGH SPEED DUBBING) |          |     |                            | C50        | 1-126-960-11 | ELECT           | 1.0uF    | 20% | 50V |
| S664                               | 1-762-196-21 | SWITCH, TACT (▶▶: DECK B)         |          |     |                            | C51        | 1-126-960-11 | ELECT           | 1.0uF    | 20% | 50V |
| S665                               | 1-762-196-21 | SWITCH, TACT (◀◀: DECK B)         |          |     |                            | C52        | 1-126-963-11 | ELECT           | 4.7uF    | 20% | 50V |
| S666                               | 1-762-196-21 | SWITCH, TACT (■: DECK B)          |          |     |                            | C53        | 1-126-964-11 | ELECT           | 10uF     | 20% | 50V |
| S667                               | 1-762-196-21 | SWITCH, TACT (▷: DECK B)          |          |     |                            | C54        | 1-104-396-11 | ELECT           | 10uF     | 20% | 16V |
| S668                               | 1-762-196-21 | SWITCH, TACT (◁: DECK B)          |          |     |                            | C55        | 1-104-396-11 | ELECT           | 10uF     | 20% | 16V |
| *****                              |              |                                   |          |     |                            | C56        | 1-104-396-11 | ELECT           | 10uF     | 20% | 16V |
| * A-4303-574-A TCB BOARD, COMPLETE |              |                                   |          |     |                            | C57        | 1-163-017-00 | CERAMIC CHIP    | 0.0047uF | 5%  | 50V |
| *****                              |              |                                   |          |     |                            | C58        | 1-163-017-00 | CERAMIC CHIP    | 0.0047uF | 5%  | 50V |
| (RX70: AEP, AED, G, UK)            |              |                                   |          |     |                            | C59        | 1-163-809-11 | CERAMIC CHIP    | 0.047uF  | 10% | 25V |
| < CAPACITOR >                      |              |                                   |          |     |                            | C60        | 1-163-809-11 | CERAMIC CHIP    | 0.047uF  | 10% | 25V |
| C1                                 | 1-163-141-00 | CERAMIC CHIP                      | 0.001uF  | 5%  | 50V                        | C61        | 1-126-301-11 | ELECT           | 1uF      | 20% | 50V |
| C2                                 | 1-126-967-11 | ELECT                             | 47uF     | 20% | 16V                        | C62        | 1-163-141-00 | CERAMIC CHIP    | 0.001uF  | 5%  | 50V |
| C3                                 | 1-163-038-91 | CERAMIC                           | 100000PF |     | 25V                        | C63        | 1-163-017-00 | CERAMIC CHIP    | 0.0047uF | 5%  | 50V |
| C5                                 | 1-163-031-11 | CERAMIC                           | 10000PF  |     | 50V                        | C64        | 1-126-967-11 | ELECT           | 47uF     | 20% | 16V |
| C6                                 | 1-163-038-91 | CERAMIC                           | 100000PF |     | 25V                        | C65        | 1-163-031-11 | CERAMIC         | 10000PF  |     | 50V |
| C8                                 | 1-163-031-11 | CERAMIC                           | 10000PF  |     | 50V                        | C66        | 1-126-162-11 | ELECT           | 3.3uF    | 20% | 50V |
| C9                                 | 1-163-031-11 | CERAMIC                           | 10000PF  |     | 50V                        | C67        | 1-126-933-11 | ELECT           | 100uF    | 20% | 10V |
| C10                                | 1-163-031-11 | CERAMIC                           | 10000PF  |     | 50V                        | C68        | 1-162-306-11 | CERAMIC         | 0.01uF   | 20% | 16V |
| C16                                | 1-163-038-91 | CERAMIC                           | 100000PF |     | 25V                        | C71        | 1-162-306-11 | CERAMIC         | 0.01uF   | 20% | 16V |
| C19                                | 1-163-249-11 | CHIP CERAMIC                      | 82PF     |     |                            | C72        | 1-126-967-11 | ELECT           | 47uF     | 20% | 16V |
| C21                                | 1-163-141-00 | CERAMIC CHIP                      | 0.001uF  | 5%  | 50V                        | C120       | 1-163-105-00 | CERAMIC CHIP    | 33PF     | 5%  | 50V |
| C22                                | 1-163-031-11 | CERAMIC                           | 10000PF  |     | 50V                        | < FILTER > |              |                 |          |     |     |
| C23                                | 1-163-235-11 | CHIP CERAMIC                      | 22PF     | 5%  | 50V                        | CF1        | 1-567-389-11 | FILTER, CERAMIC |          |     |     |

# TCB

| Ref. No. | Part No.     | Description                      | Remark | Ref. No. | Part No.     | Description               | Remark |
|----------|--------------|----------------------------------|--------|----------|--------------|---------------------------|--------|
| CF2      | 1-760-393-11 | FILTER, CERAMIC                  |        |          |              | < FILTER >                |        |
| CF3      | 1-760-393-11 | FILTER, CERAMIC                  |        | LPF41    | 1-239-845-11 | FILTER, LOW PASS          |        |
|          |              | < CONNECTOR >                    |        | LPF42    | 1-239-845-11 | FILTER, LOW PASS          |        |
| * CN1    | 1-568-834-11 | SOCKET, CONNECTOR 15P            |        |          |              | < TRANSISTOR >            |        |
|          |              | < DIODE >                        |        | Q1       | 8-729-201-27 | TRANSISTOR 2SC2715Y-TE85L |        |
| D21      | 8-719-976-99 | DIODE UDZ-TE-17-5.1B             |        | Q2       | 8-729-201-27 | TRANSISTOR 2SC2715Y-TE85L |        |
| D41      | 8-719-016-74 | DIODE 1SS352-TPH3                |        | Q3       | 8-729-201-27 | TRANSISTOR 2SC2715Y-TE85L |        |
|          |              | < FRONTEND >                     |        | Q4       | 8-729-201-27 | TRANSISTOR 2SC2715Y-TE85L |        |
| FE1      | 1-693-357-11 | FRONT END (4 GANG)               |        | Q5       | 8-729-424-08 | TRANSISTOR MUN2111T1      |        |
| FE2      | 1-233-514-11 | ENCAPSULATED COMPONENT           |        | Q9       | 8-729-216-22 | TRANSISTOR 2SA812-T1-M5M6 |        |
|          |              | < IC >                           |        | Q11      | 8-729-421-22 | TRANSISTOR MUN2211T1      |        |
| IC21     | 8-759-288-54 | IC LC72130                       |        | Q12      | 8-729-421-22 | TRANSISTOR MUN2211T1      |        |
| IC41     | 8-759-176-03 | IC LA1835                        |        | Q13      | 8-729-421-22 | TRANSISTOR MUN2211T1      |        |
|          |              | < IFT >                          |        | Q14      | 8-729-421-22 | TRANSISTOR MUN2211T1      |        |
| IFT41    | 1-409-636-11 | TRANSFORMER, IF (CERAMIC FILTER) |        |          |              | < RESISTOR >              |        |
|          |              | < CHIP CONDUCTOR >               |        | R1       | 1-249-401-11 | CARBON 47 5% 1/4W         |        |
| JR2      | 1-216-295-00 | CONDUCTOR, CHIP (2012)           |        | R2       | 1-216-037-00 | METAL CHIP 330 5% 1/10W   |        |
| JR6      | 1-216-295-00 | CONDUCTOR, CHIP (2012)           |        | R3       | 1-216-037-00 | METAL CHIP 330 5% 1/10W   |        |
| JR8      | 1-216-295-00 | CONDUCTOR, CHIP (2012)           |        | R5       | 1-216-037-00 | METAL CHIP 330 5% 1/10W   |        |
| JR9      | 1-216-295-00 | CONDUCTOR, CHIP (2012)           |        | R6       | 1-216-081-00 | METAL CHIP 22K 5% 1/10W   |        |
| JR45     | 1-216-295-00 | CONDUCTOR, CHIP (2012)           |        | R7       | 1-216-037-00 | METAL CHIP 330 5% 1/10W   |        |
| JR46     | 1-216-296-00 | CONDUCTOR, CHIP (3216)           |        | R8       | 1-216-037-00 | METAL CHIP 330 5% 1/10W   |        |
| JR47     | 1-216-295-00 | CONDUCTOR, CHIP (2012)           |        | R9       | 1-216-081-00 | METAL CHIP 22K 5% 1/10W   |        |
| JR48     | 1-216-295-00 | CONDUCTOR, CHIP (2012)           |        | R10      | 1-216-037-00 | METAL CHIP 330 5% 1/10W   |        |
| JR49     | 1-216-296-00 | CONDUCTOR, CHIP (3216)           |        | R11      | 1-216-081-00 | METAL CHIP 22K 5% 1/10W   |        |
| JR51     | 1-216-295-00 | CONDUCTOR, CHIP (2012)           |        | R12      | 1-216-037-00 | METAL CHIP 330 5% 1/10W   |        |
| JR52     | 1-216-295-00 | CONDUCTOR, CHIP (2012)           |        | R13      | 1-216-037-00 | METAL CHIP 330 5% 1/10W   |        |
| JR53     | 1-216-296-00 | CONDUCTOR, CHIP (3216)           |        | R14      | 1-216-081-00 | METAL CHIP 22K 5% 1/10W   |        |
| JR54     | 1-216-295-00 | CONDUCTOR, CHIP (2012)           |        | R18      | 1-216-073-00 | METAL CHIP 10K 5% 1/10W   |        |
|          |              | < JUMPER RESISTOR >              |        | R19      | 1-216-073-00 | METAL CHIP 10K 5% 1/10W   |        |
| JW4      | 1-249-413-11 | CARBON 470 5% 1/4W               |        | R21      | 1-216-049-91 | CHIP 1K 5% 1/10W          |        |
| JW5      | 1-249-413-11 | CARBON 470 5% 1/4W               |        | R22      | 1-216-049-91 | CHIP 1K 5% 1/10W          |        |
|          |              | < COIL >                         |        | R23      | 1-216-049-91 | CHIP 1K 5% 1/10W          |        |
| L2       | 1-414-142-11 | INDUCTOR, MICRO 1uH              |        | R24      | 1-216-025-91 | CHIP 100 5% 1/10W         |        |
| L3       | 1-410-521-11 | INDUCTOR, MICRO 100uH            |        | R25      | 1-249-417-11 | CARBON 1K 5% 1/4W         |        |
| L4       | 1-410-515-11 | INDUCTOR, MICRO 33uH             |        | R26      | 1-249-437-11 | CARBON 47K 5% 1/4W        |        |
| L41      | 1-407-500-00 | MICRO INDUCTOR 4.7mH             |        | R27      | 1-249-417-11 | CARBON 1K 5% 1/4W         |        |
|          |              |                                  |        | R28      | 1-249-417-11 | CARBON 3.3K 5% 1/4W       |        |
|          |              |                                  |        | R29      | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W  |        |
|          |              |                                  |        | R30      | 1-216-186-00 | CHIP 330 5% 1/8W          |        |
|          |              |                                  |        | R31      | 1-216-025-91 | CHIP 100 5% 1/10W         |        |
|          |              |                                  |        | R32      | 1-249-425-11 | CARBON 4.7K 5% 1/4W       |        |
|          |              |                                  |        | R33      | 1-249-425-11 | CARBON 4.7K 5% 1/4W       |        |
|          |              |                                  |        | R34      | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W  |        |
|          |              |                                  |        | R35      | 1-216-214-00 | CHIP 4.7K 5% 1/8W         |        |
|          |              |                                  |        | R36      | 1-216-025-91 | CHIP 100 5% 1/10W         |        |

| Ref. No.              | Part No.     | Description                | Remark                           | Ref. No.        | Part No.     | Description                                 | Remark                                  |
|-----------------------|--------------|----------------------------|----------------------------------|-----------------|--------------|---------------------------------------------|-----------------------------------------|
| R37                   | 1-216-073-00 | METAL CHIP                 | 10K 5% 1/10W                     | < FUSE >        |              |                                             |                                         |
| R38                   | 1-216-089-91 | CHIP                       | 47K 5% 1/10W                     | △ F901          | 1-532-388-31 | FUSE (2A, 250V) (EXCEPT D60/RX70: MX/RX70)  |                                         |
| R39                   | 1-249-429-11 | CARBON                     | 10K 5% 1/4W                      | △ F902          | 1-532-504-31 | FUSE (4A, 250V)                             |                                         |
| R42                   | 1-216-073-00 | METAL CHIP                 | 10K 5% 1/10W                     |                 |              | (GR7: EA3, E2, E3, HK, MX, MY, SP, TW/GR7J) |                                         |
| R43                   | 1-216-042-00 | METAL CHIP                 | 510 5% 1/10W                     | △ F902          | 1-533-420-11 | FUSE, GLASS CYLINDRICAL (DIA.5) (2A, 250V)  |                                         |
| R44                   | 1-216-013-00 | METAL CHIP                 | 33 5% 1/10W                      |                 |              | (D60/RX70: US, CND)                         |                                         |
| R45                   | 1-247-843-11 | CARBON (SMALL)             | 3.3K 5% 1/4W                     | △ F903          | 1-532-505-31 | FUSE (5A, 250V)                             |                                         |
| R46                   | 1-216-073-00 | METAL CHIP                 | 10K 5% 1/10W                     |                 |              | (RX70: AEP, AED, CIS, EE, G, UK)            |                                         |
| R47                   | 1-216-097-91 | CHIP                       | 100K 5% 1/10W                    | △ F904          | 1-532-505-31 | FUSE (5A, 250V)                             |                                         |
|                       |              |                            |                                  |                 |              | (RX70: AEP, AED, CIS, EE, G, UK)            |                                         |
| R48                   | 1-249-417-11 | CARBON                     | 1K 5% 1/4W                       | < RESISTOR >    |              |                                             |                                         |
| R49                   | 1-216-049-91 | CHIP                       | 1K 5% 1/10W                      | △ R901          | 1-219-119-81 | FUSIBLE                                     | 0.1 5% 1/4W F                           |
| R50                   | 1-216-065-00 | METAL CHIP                 | 4.7K 5% 1/10W                    |                 |              |                                             | (D60/RX70: US, CND)                     |
| R51                   | 1-216-065-00 | METAL CHIP                 | 4.7K 5% 1/10W                    | △ R901          | 1-219-120-11 | FUSIBLE                                     | 0.15 5% 1/4W F                          |
| R53                   | 1-249-429-11 | CARBON                     | 10K 5% 1/4W                      |                 |              |                                             | (GR7/GR7J)                              |
| R54                   | 1-249-399-11 | CARBON                     | 33 5% 1/4W                       | △ R901          | 1-219-121-11 | FUSIBLE                                     | 0.22 5% 1/4W F                          |
| R55                   | 1-216-162-00 | CHIP                       | 33 5% 1/8W                       |                 |              |                                             | (RX70: AEP, AED, CIS, EE, G, UK)        |
| R56                   | 1-249-393-11 | CARBON                     | 10 5% 1/4W                       | △ R902          | 1-219-119-81 | FUSIBLE                                     | 0.1 5% 1/4W F                           |
| R91                   | 1-216-295-00 | CONDUCTOR, CHIP            | (2012)                           |                 |              |                                             | (D60/RX70: US, CND)                     |
| R92                   | 1-216-073-00 | METAL CHIP                 | 10K 5% 1/10W                     | △ R902          | 1-219-120-11 | FUSIBLE                                     | 0.15 5% 1/4W F                          |
|                       |              |                            |                                  |                 |              |                                             | (GR7/GR7J)                              |
| R94                   | 1-216-073-00 | METAL CHIP                 | 10K 5% 1/10W                     | △ R902          | 1-219-121-11 | FUSIBLE                                     | 0.22 5% 1/4W F                          |
| R99                   | 1-249-399-11 | CARBON                     | 33 5% 1/4W                       |                 |              |                                             | (RX70: AEP, AED, CIS, EE, G, UK)        |
| < VARIABLE RESISTOR > |              |                            |                                  | △ R903          | 1-219-119-81 | FUSIBLE                                     | 0.1 5% 1/4W F                           |
| RV41                  | 1-238-601-11 | ADJ, CARBON                | 22K                              |                 |              |                                             | (D60/RX70: US, CND)                     |
| RV42                  | 1-238-600-11 | ADJ, CARBON                | 10K                              | △ R903          | 1-219-120-11 | FUSIBLE                                     | 0.15 5% 1/4W F                          |
|                       |              |                            |                                  |                 |              |                                             | (GR7/GR7J)                              |
| < TERMINAL >          |              |                            |                                  | △ R903          | 1-219-121-11 | FUSIBLE                                     | 0.22 5% 1/4W F                          |
| TM1                   | 1-537-488-11 | TERMINAL BOARD (ANT)       |                                  |                 |              |                                             | (RX70: AEP, AED, CIS, EE, G, UK)        |
| < VIBRATOR >          |              |                            |                                  | △ R904          | 1-219-119-81 | FUSIBLE                                     | 0.1 5% 1/4W F                           |
| X21                   | 1-760-549-31 | VIBRATOR, CRYSTAL (4.5MHz) |                                  |                 |              |                                             | (D60/RX70: US, CND)                     |
| X41                   | 1-760-220-11 | FILTER, CERAMIC            |                                  | △ R904          | 1-219-120-11 | FUSIBLE                                     | 0.15 5% 1/4W F                          |
| X42                   | 1-527-981-00 | FILTER, CERAMIC            |                                  |                 |              |                                             | (GR7/GR7J)                              |
| X43                   | 1-577-075-21 | OSCILLATOR, CERAMIC        |                                  | △ R904          | 1-219-121-11 | FUSIBLE                                     | 0.22 5% 1/4W F                          |
| *****                 |              |                            |                                  |                 |              |                                             | (RX70: AEP, AED, CIS, EE, G, UK)        |
| *                     | 1-664-004-11 | TRANS BOARD                | *****                            | △ R907          | 1-202-725-00 | SOLID                                       | 3.3M 10% 1/2W                           |
|                       |              |                            |                                  |                 |              |                                             | (D60/RX70: US, CND)                     |
|                       | 1-533-217-31 | HOLDER, FUSE               |                                  | < SWITCH >      |              |                                             |                                         |
| < CONNECTOR >         |              |                            |                                  | △ S901          | 1-572-675-11 | SWITCH, POWER VOLTAGE CHANGE                |                                         |
| * CN901               | 1-564-522-11 | PLUG, CONNECTOR 7P         |                                  |                 |              |                                             | (VOLTAGE SELECTOR)                      |
| * CN902               | 1-564-518-11 | PLUG, CONNECTOR 3P         |                                  |                 |              |                                             | (GR7: EA3, E2, E3, HK, MY, SP, TW/GR7J) |
| CN903                 | 1-564-321-00 | PIN, CONNECTOR 2P          |                                  | < TRANSFORMER > |              |                                             |                                         |
|                       |              |                            | (D60/GR7/GR7J/RX70: US, CND)     | △ T901          | 1-429-997-11 | TRANSFORMER, POWER (D60/RX70: US)           |                                         |
| CN903                 | 1-774-108-11 | PIN, CONNECTOR (PC BOARD)  |                                  | △ T901          | 1-429-998-11 | TRANSFORMER, POWER                          |                                         |
|                       |              |                            | (RX70: AEP, AED, CIS, EE, G, UK) |                 |              |                                             | (RX70: AEP, AED, CIS, EE, G, UK)        |
|                       |              |                            |                                  | △ T901          | 1-429-999-11 | TRANSFORMER, POWER (GR7/GR7J)               |                                         |
|                       |              |                            |                                  | △ T901          | 1-431-148-11 | TRANSFORMER, POWER (RX70: CND)              |                                         |
| *****                 |              |                            |                                  | *****           |              |                                             |                                         |

|                                                                                                                                  |                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified. | Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié. |
|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|

# HCD-D60/GR7/GR7J/RX70

| Ref. No. | Part No.     | Description                                                                                      | Remark |
|----------|--------------|--------------------------------------------------------------------------------------------------|--------|
|          |              | MISCELLANEOUS<br>*****                                                                           |        |
| 14       | 1-773-160-11 | WIRE (FLAT TYPE) (21 CORE)                                                                       |        |
| 15       | 1-769-947-11 | WIRE (FLAT TYPE) (11 CORE)                                                                       |        |
| 64       | 1-777-869-11 | WIRE (FLAT TYPE) (10 CORE)                                                                       |        |
|          |              | (EXCEPT US, CND)                                                                                 |        |
| 64       | 1-777-871-11 | WIRE (FLAT TYPE) (8 CORE) (US, CND)                                                              |        |
| 65       | 1-777-936-11 | WIRE (FLAT TYPE) (5 CORE) (EXCEPT US, CND)                                                       |        |
| 66       | 1-773-051-11 | WIRE (FLAT TYPE) (17 CORE)                                                                       |        |
| 74       | 1-769-909-11 | WIRE (FLAT TYPE) (9 CORE)                                                                        |        |
| 104      | 1-777-870-11 | WIRE (FLAT TYPE) (19 CORE)                                                                       |        |
| 106      | 1-233-514-11 | ENCAPSULATED COMPONENT<br>(RX70: AEP, AED, CIS, EE, G, UK)                                       |        |
| 106      | 1-233-544-11 | ENCAPSULATED COMPONENT<br>(D60/RX70: US, CND)                                                    |        |
| 106      | 1-233-545-11 | ENCAPSULATED COMPONENT<br>(GR7: E2, EA4, MX, TH, AUS)                                            |        |
| 106      | 1-233-546-11 | ENCAPSULATED COMPONENT<br>(GR7: E3, EA3, HK, MY, SAF, SP, TW/GR7J)                               |        |
| 108      | 1-751-086-11 | WIRE (FLAT TYPE) (13 CORE)<br>(D60/GR7: E2, EA4, MX, TH, AUS/RX70: US, CND)                      |        |
| 108      | 1-751-688-11 | WIRE (FLAT TYPE) (13 CORE) (GR7: E2)                                                             |        |
| 108      | 1-773-012-11 | WIRE (FLAT TYPE) (15 CORE) (GR7: E3, EA3, HK<br>SAF, SP, TW/GR7J/RX70: AEP, AED, CIS, EE, G, UK) |        |
| △ 113    | 1-751-326-31 | CORD, POWER (TH)                                                                                 |        |
| △ 114    | 1-690-609-21 | CORD, POWER (US, CND)                                                                            |        |
| △ 115    | 1-575-653-11 | CORD, POWER (E2, E3, MX)                                                                         |        |
| △ 116    | 1-569-007-11 | ADAPTOR, CONVERSION 2P (E3)                                                                      |        |
| △ 117    | 1-569-008-11 | ADAPTOR, CONVERSION 2P (EA3, MY, SP, TW)                                                         |        |
| △ 118    | 1-575-651-11 | CORD, POWER (EA3, EA4, HK, MY, SAF, SP, TW)                                                      |        |
| △ 118    | 1-575-651-21 | CORD, POWER (AEP, AED, CIS, EE, G)                                                               |        |
| △ 119    | 1-690-608-11 | CORD, POWER (AUS)                                                                                |        |
| △ 120    | 1-751-529-11 | CORD, POWER (UK)                                                                                 |        |
| △ 121    | 1-770-019-11 | ADAPTOR, CONVERSION PLUG 3P (HK)                                                                 |        |
| 257      | 1-452-538-11 | MAGNET                                                                                           |        |
| 258      | 1-776-042-11 | WIRE (FLAT TYPE) (8 CORE)                                                                        |        |
| △ 301    | 8-820-020-01 | OPTICAL PICK-UP KSS-213D/Q-NP                                                                    |        |
| 302      | 1-769-069-11 | WIRE (FLAT TYPE) (16 CORE)                                                                       |        |
| HP101    | 1-500-093-11 | HEAD, MAGNETIC (PLAYBACK) (DECK A)                                                               |        |
| HRPE1011 | 500-094-11   | HEAD, MAGNETIC (REC/PB/ERASE) (DECK B)                                                           |        |
| M1       | X-3371-223-1 | MOTOR ASSY, CAPSTAN                                                                              |        |
| M101     | X-4917-523-4 | MOTOR ASSY SPINDLE                                                                               |        |
| M102     | X-4917-504-1 | MOTOR ASSY SLED                                                                                  |        |
| M2       | A-2004-410-A | MOTOR ASSY, DC (TRIGGER)                                                                         |        |
| M701     | A-4672-004-A | MOTOR ASSY (TURN)                                                                                |        |
| M801     | A-4672-004-A | MOTOR ASSY (SLED)                                                                                |        |
| M901     | 1-698-792-11 | FAN, DC (D60/GR7/GR7J/RX70: US, CND)                                                             |        |
| S811     | 1-473-335-11 | ENCODER, ROTARY (BU, TRAY ADDRESS DET)                                                           |        |
| △ T901   | 1-429-997-11 | TRANSFORMER, POWER (D60/RX70: US)                                                                |        |

| Ref. No. | Part No.     | Description                                            | Remark |
|----------|--------------|--------------------------------------------------------|--------|
| △ T901   | 1-429-998-11 | TRANSFORMER, POWER<br>(RX70: AEP, AED, CIS, EE, G, UK) |        |
| △ T901   | 1-429-999-11 | TRANSFORMER, POWER (GR7/GR7J)                          |        |
| △ T901   | 1-431-148-11 | TRANSFORMER, POWER (RX70: CND)                         |        |

\*\*\*\*\*

## HARDWARE LIST \*\*\*\*\*

|     |              |                             |
|-----|--------------|-----------------------------|
| #1  | 7-685-871-01 | SCREW +BVTT 3X6 (S)         |
| #2  | 7-685-647-79 | SCREW +BVTP 3X10 TYPE2 N-S  |
| #3  | 7-685-650-79 | SCREW +BVTP 3X16 TYPE2 IT-3 |
| #4  | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 N-S   |
| #5  | 7-621-775-10 | SCREW +B 2.6X4              |
| #6  | 7-621-255-15 | SCREW +P 2X3                |
| #7  | 7-685-533-19 | SCREW +BTP 2.6X6 TYPE2 N-S  |
| #8  | 7-685-131-19 | SCREW +BTP 2.6X4 TYPE2 N-S  |
| #9  | 7-685-862-09 | SCREW +BVTT 2.6X6 (S)       |
| #10 | 7-685-534-19 | SCREW +BTP 2.6X8 TYPE2 N-S  |
| #11 | 7-623-921-01 | RING, RETAINING, CAPSTAN    |
| #12 | 7-621-775-00 | SCREW +B 2.6X3              |
| #13 | 7-685-872-09 | SCREW +BVTT 3X8 (S)         |

\*\*\*\*\*

## ACCESSORIES & PACKING MATERIALS

\*\*\*\*\*

|              |                                        |
|--------------|----------------------------------------|
| 1-501-374-11 | ANTENNA, LOOP (GR7: SAF)               |
| 1-501-659-11 | ANTENNA (FM) (GR7: SAF)                |
| 8-917-581-90 | REMOCON, SONY RM-SD70/M SET (GR7: SAF) |

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

# SS-L80/L80H/L100V/L100VH

## SERVICE MANUAL



*US Model  
Canadian Model  
AEP Model  
UK Model  
E Model  
Australian Model*

These are speaker system in following Stereo Component system.  
THE SYSTEM NAME FOR EACH SPEAKER

| STEREO COMPONENT SYSTEM | SPEAKER SYSTEM |
|-------------------------|----------------|
| MHC-D60                 | SS-L80         |
| MHC-RX80                |                |
| MHC-GR7<br>MHC-RX70     | SS-L80H        |
| MHC-GR7J                |                |
| MHC-D90AV               | SS-L100V       |
| MHC-RX100AV             |                |
| MHC-GR10AV              | SS-L100VH      |

### SPECIFICATION

Speaker System: 3-way, 3-unit  
bass-reflex type  
Speaker Units: Woofer : 15cm dia., cone type  
Center Tweeter : 5cm dia., cone type  
Super Tweeter : 2cm dia., cone type  
Normal Impedances: 6 ohm (EXCEPT L80:US,CND/L100V/L100VH)  
8 ohm (L80:US,CND/L100V/L100VH)  
Dimensions: Approx. 205 x 330 x 315 mm (w/h/d)  
Mass: Approx. 3.9kg net per speaker.

Design and specifications subject to change without notice.

## 3-WAY SPEAKER SYSTEM

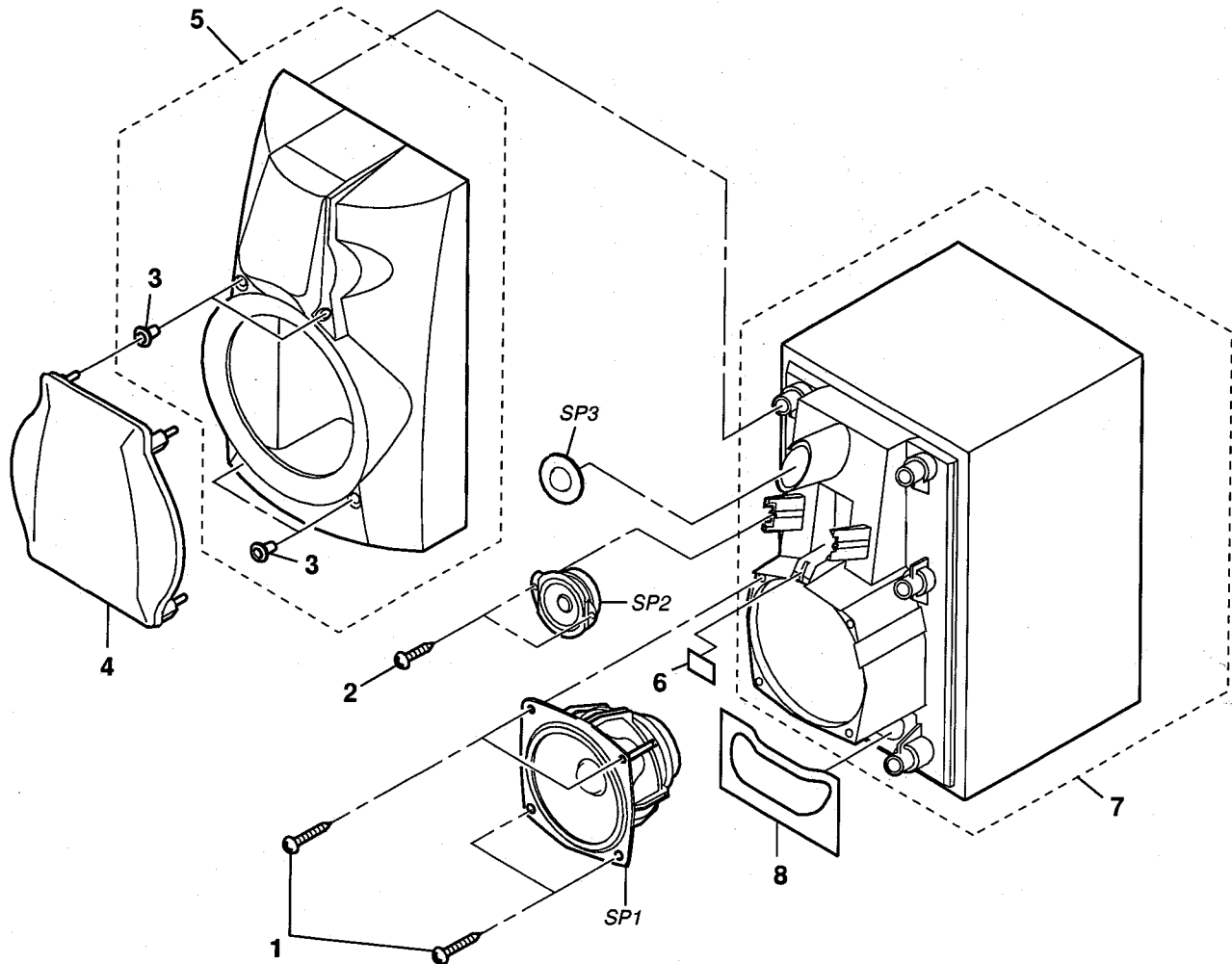
# SONY®



EXPLODED VIEW AND PARTS LIST

NOTE:

- -XX, -X mean standardized parts, so they may have some difference from the original one.
  - The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
  - The mechanical parts with no reference number in the exploded views are not supplied.
- Abbreviation  
G : German  
AED : Finland,Norway,Denmark,Sweden



| Ref. No. | Part No.     | Description                             | Remark | Ref. No.                        | Part No.                     | Description                   | Remark |
|----------|--------------|-----------------------------------------|--------|---------------------------------|------------------------------|-------------------------------|--------|
| 1        | 4-991-133-01 | SCREW (4) (3.5X18), +BVTP               |        | * 8                             | 4-988-096-01                 | PACKING                       |        |
| 2        | 4-991-132-01 | SCREW (4) (3.5X12), +BVTP               |        | SP1                             | 1-505-520-11                 | SPEAKER (15CM) (L100V/L100VH) |        |
| * 3      | 4-963-075-01 | CATCHER                                 |        | SP1                             | 1-505-595-11                 | SPEAKER (15CM) (L80/L80H)     |        |
| 4        | X-4947-972-1 | FRAME ASSY, GRILLE (EXCEPT L80H/L100VH) |        | SP2                             | 1-505-518-11                 | SPEAKER (5CM)                 |        |
| 4        | X-4948-156-1 | FRAME ASSY, GRILLE (L80H/L100VH)        |        | SP3                             | 1-505-563-11                 | SPEAKER (2CM)                 |        |
| 5        | X-4948-152-1 | PANEL ASSY, FRONT (L80H/L100VH)         |        | *****                           |                              |                               |        |
| 5        | X-4947-971-1 | PANEL ASSY, FRONT (EXCEPT L80H/L100VH)  |        | ACCESSORIES & PACKING MATERIALS |                              |                               |        |
| 6        | 9-911-840-XX | PACKING                                 |        | *****                           |                              |                               |        |
| * 7      | A-4384-384-A | CABINET ASSY, SPEAKER                   |        | 1-769-306-11                    | CORD, SPEAKER (L80/L80H)     |                               |        |
|          |              | (L80/L100V:EXCEPT G,AED)                |        | 1-769-317-11                    | CORD, SPEAKER (L100V/L100VH) |                               |        |
| * 7      | A-4384-385-A | CABINET ASSY, SPEAKER (L80:G,AED)       |        | * 4-989-378-01                  | CUSHION (L80/L80H)           |                               |        |
| * 7      | A-4384-430-A | CABINET ASSY, SPEAKER (L80H/L100VH)     |        | * 4-989-390-01                  | CUSHION (L100V/L100VH)       |                               |        |
| * 7      | A-4384-435-A | CABINET ASSY, SPEAKER (L100V:G,AED)     |        |                                 |                              |                               |        |

# MHC-D60/GR7/GR7J/RX70

## SERVICE MANUAL

*US Model*

MHC-D60/RX70

*Canadian Model*

*AEP Model*

*UK Model*

MHC-RX70

*E Model*

MHC-GR7/GR7J

*Australian Model*

MHC-GR7

- MHC-D60/GR7/GR7J/RX70 are composed following models.  
As for the service manual, it is issued for each component model,  
then, please refer to it.

### COMPONENTS MODEL NAME FOR MHC-D60/GR7/GR7J/RX70

|                                      | MHC-D60 | MHC-GR7                 |                           | MHC-GR7J | MHC-RX70                |                           |
|--------------------------------------|---------|-------------------------|---------------------------|----------|-------------------------|---------------------------|
| COMPACT DISC DECK<br>RECEIVER SYSTEM | HCD-D60 | HCD-GR7                 |                           | HCD-GR7J | HCD-RX70                |                           |
| SPEAKER SYSTEM                       | SS-L80  | SS-L80<br>(Black Model) | SS-L80H<br>(Silver Model) | SS-L80H  | SS-L80<br>(Black Model) | SS-L80H<br>(Silver Model) |

### SPECIFICATIONS

#### General

##### Power requirements

120 V AC, 60 Hz (US, CND model)  
120 V AC, 50/60 Hz (MX model)  
220-230 V AC, 50/60 Hz  
(AEP, UK, G, AED, EE, CIS model)  
220-240 V AC, 50/60 Hz (AUS, SA, TH model)  
110-120 V or 220-240 V AC, 50/60 Hz  
Adjustable with the voltage selector  
(OTHER models)

##### Power consumption

115 W (AEP, UK, G, AED, EE, CIS model)  
195 W (US, CND model)  
135 W (OTHER models)

#### • Abbreviation

CND : Canadian model  
G : German model  
EE : East European model  
AUS : Australian model  
TH : Thailand model  
AED : Northern European model  
SA : South African model  
MX : Mexican model

#### Supplied accessories

AM loop aerial (1)  
Remote RM-SD70 (1)  
Sony SUM-3 (NS) batteries (2)  
FM lead aerial (1)  
Speaker cords (2)

Design and specifications are subject to change without notice.

## COMPACT Hi-Fi STEREO SYSTEM



# SONY®

## PARTS LIST

### NOTE:

- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

### • Abbreviation

CND : Canadian model  
G : German model  
EE : East European model  
EA : Saudi Arabia model  
MX : Mexican model

SA : South African model  
SP : Singapore model  
HK : Hong Kong model  
TH : Thailand model  
TW : Taiwan model  
AUS : Australian model  
AED : Northern European model  
E3 : 240 V AC AREA

| Ref. No. | Part No.     | Description                                                          | Remark |
|----------|--------------|----------------------------------------------------------------------|--------|
|          | 1-501-374-11 | ANTENNA, LOOP                                                        |        |
|          | 1-501-659-11 | ANTENNA (FM)<br>(EXCEPT AEP, UK, G, AED, EE, CIS)                    |        |
|          | 1-501-807-11 | ANTENNA, (FM) (AEP, UK, G, AED, EE, CIS)                             |        |
|          | 1-769-306-11 | CORD, SPEAKER (SS) (2 m)                                             |        |
|          | 3-859-542-11 | MANUAL, INSTRUCTION (ENGLISH)<br>(US/CND/E/EA/MY/SP/HK/TW/MX/AUS/SA) |        |
|          | 3-859-542-21 | MANUAL, INSTRUCTION (FRENCH) (CND)                                   |        |
|          | 3-859-542-31 | MANUAL, INSTRUCTION (FRENCH, SPANISH)<br>(E/EA/MY/SP/HK/TW/MX)       |        |
|          | 3-859-542-41 | MANUAL, INSTRUCTION (CHINESE)<br>(E3/EA/MY/SP/HK/TW)                 |        |
|          | 3-859-542-51 | MANUAL, INSTRUCTION (ARABIC) (EA)                                    |        |
|          | 3-859-543-11 | MANUAL, INSTRUCTION (ENGLISH)<br>(AEP, UK, EE, CIS)                  |        |
|          | 3-859-543-21 | MANUAL, INSTRUCTION<br>(FRENCH, SPANISH, PORTUGUESE) (AEP)           |        |
|          | 3-859-543-31 | MANUAL, INSTRUCTION (GERMAN) (AEP, G)                                |        |
|          | 3-859-543-41 | MANUAL, INSTRUCTION (DUTCH, ITALIAN)<br>(AEP)                        |        |
|          | 3-859-543-51 | MANUAL, INSTRUCTION<br>(DANISH, FINISH, SWEDISH) (AED)               |        |
|          | 3-859-543-61 | MANUAL, INSTRUCTION (POLISH, RUSSIAN)<br>(EE, CIS)                   |        |
|          | 3-859-763-11 | MANUAL, INSTRUCTION (HUNGARIAN)<br>(EE, CIS)                         |        |
|          | 4-979-371-01 | COVER, BATTERY (for RM-SD70)                                         |        |
|          | 8-917-581-90 | REMOTE COMMANDER (RM-SD70)                                           |        |



# HCD-D60/GR7/GR7J/RX70

**SONY**

## SERVICE MANUAL

*US Model*

*HCD-D60/RX70*

*Canadian Model*

*AEP Model*

*UK Model*

*HCD-RX70*

*E Model*

*HCD-GR7/GR7J*

*Australian Model*

*HCD-GR7*

## SUPPLEMENT-1

File this supplement with the service manual.

### Subject:

#### 1. CORRECTION

#### 2. ELECTRICAL ADJUSTMENT

FM Polar Adjustment (East European, CIS Models Only)

#### 3. DIAGRAMS

Block Diagram – TUNER Section –

(RX70: AEP, AED, G, UK Models)

Block Diagram – TUNER Section –

(East European, CIS Models)

Block Diagram – CD Section –

Block Diagram – MAIN Section –

Printed Wiring Board – TUNER Section –

(East European, CIS Models)

Schematic Diagram – TUNER Section –

(East European, CIS Models)

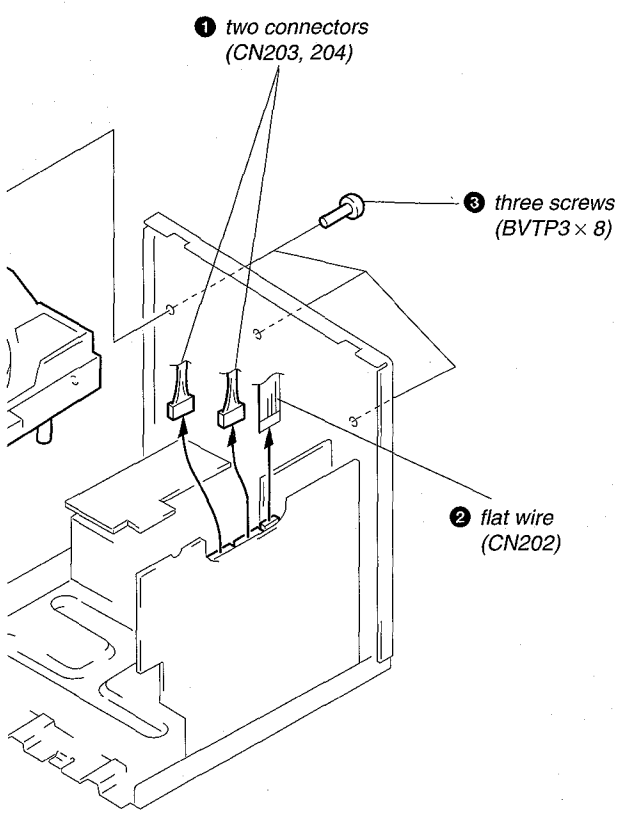
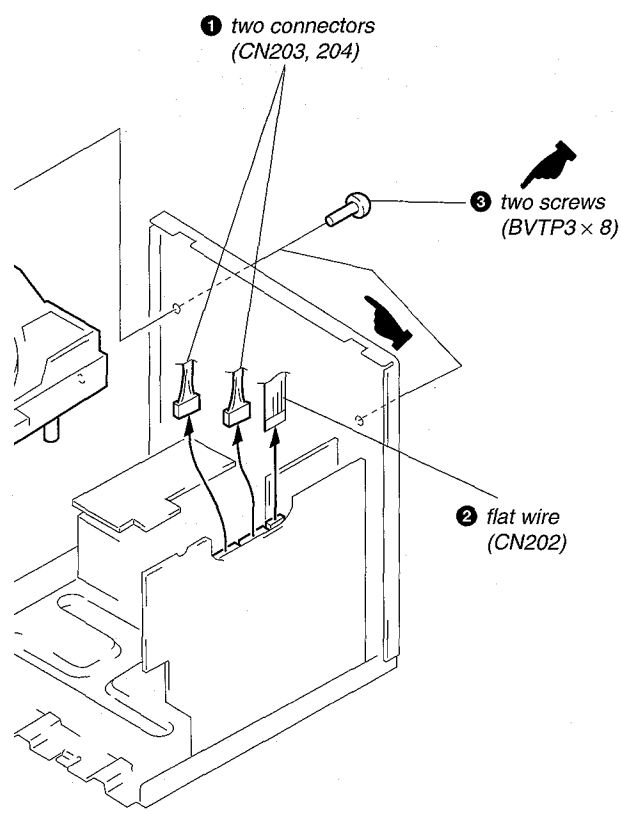
#### 4. ELECTRICAL PARTS LIST

TCB Board (East European, CIS Models)

- Abbreviation  
AED : North European  
G : German

1. CORRECTION

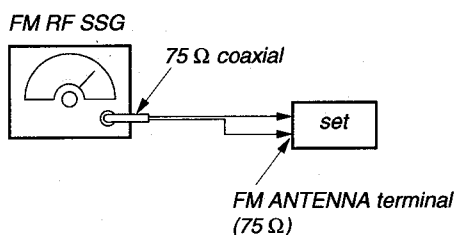
 or      (Under line): indicates changed portion.

| Page | Incorrect                                                                          |              |                        |                 |         | Correct                                                                             |              |                                     |                |         |
|------|------------------------------------------------------------------------------------|--------------|------------------------|-----------------|---------|-------------------------------------------------------------------------------------|--------------|-------------------------------------|----------------|---------|
| 23   | CD MECHANISM DECK SECTION                                                          |              |                        |                 |         | CD MECHANISM DECK SECTION                                                           |              |                                     |                |         |
|      |  |              |                        |                 |         |  |              |                                     |                |         |
|      | Ref. No.                                                                           | Part No.     | Description            | Remark          |         | Ref. No.                                                                            | Part No.     | Description                         | Remark         |         |
| 87   | 106                                                                                | 1-233-514-11 | ENCAPSULATED COMPONENT | (RX70: CIS, EE) |         | * 106                                                                               | A-4303-570-A | TCB BOARD, COMPLETE (RX70: EE, CIS) |                |         |
| 106  | C654                                                                               | 1-162-294-31 | CERAMIC                | 0.001MF         | 10% 50V | C654                                                                                | 1-162-294-31 | CERAMIC                             | <u>0.001uF</u> | 10% 50V |

## 2. ELECTRICAL ADJUSTMENT

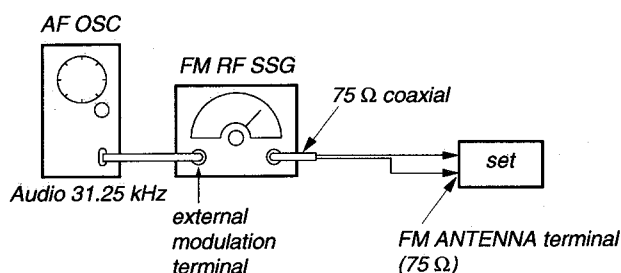
### FM Polar Adjustment (East European, CIS models only)

#### Connection 1:



Carrier frequency : 69 MHz  
 Output level : 1 mV (60 dBμ) (at 75 Ω open)  
 Modulation : AUDIO 1 kHz, 10 kHz deviation

#### Connection 2:



Carrier frequency : 69 MHz  
 Output level : 1 mV (60 dBμ) (at 75 Ω open)  
 Modulation : AUDIO 31.25 kHz, 10 kHz deviation  
 (EXTERNAL MODULATION)

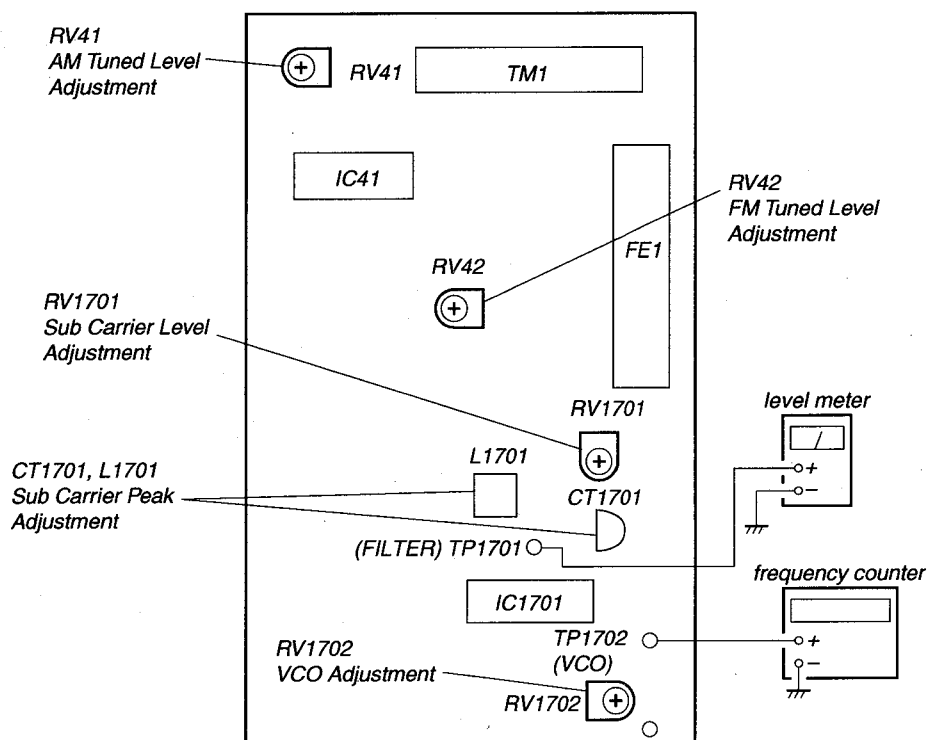
#### Procedure :

1. Set the modulation of FM RF SSG to AUDIO 1 kHz, 10 kHz deviation according to "Connection 1".
2. Tune the set to 69 MHz.
3. Adjust the RV1702 so that the reading of frequency counter connected to TP1702 becomes within 31.25 kHz  $\pm$  0.05 kHz. (VCO adjustment)
4. Then record the reading of the level meter connected to TP1701
5. Set the modulation of FM RF SSG to AUDIO 31.25 kHz, 10 kHz deviation according to "Connection 2".
6. Tune the set to 69 MHz.
7. Set the CT1701 to be mechanical center.
8. Adjust the L1701 so that the reading of the level meter connected to TP1701 become maximum.  
 Then adjust the CT1701 so that the reading of the level meter connected to TP1701 becomes maximum. (SUB CARRIER PEAK Adjustment)
9. Adjust the RV1701 so that the level at the moment becomes 14 dB higher value than the level recorded in step 4. (SUB CARRIER LEVEL Adjustment)

#### Adjustment Location :

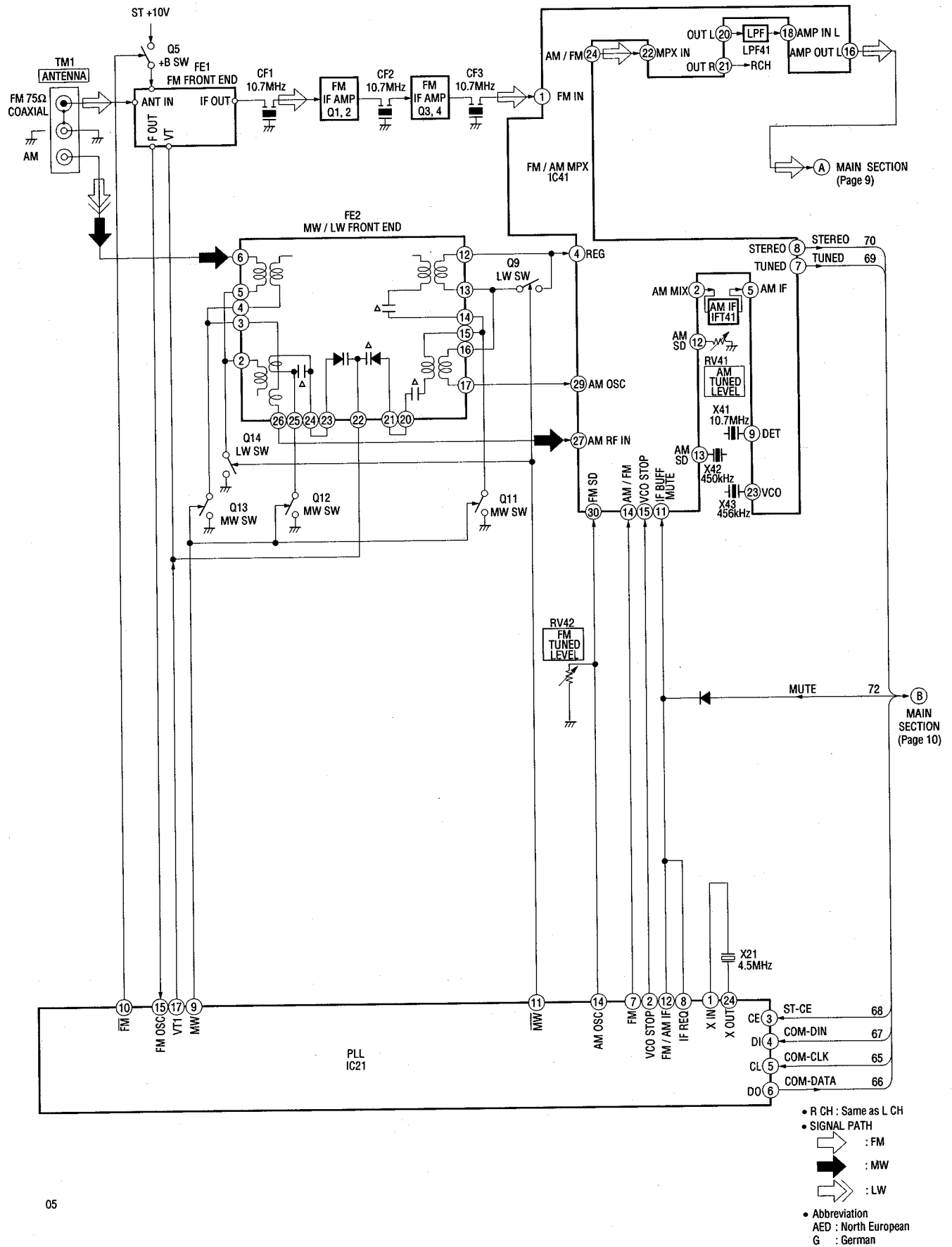
##### East European, CIS models

##### [TCB BOARD] (Component Side)

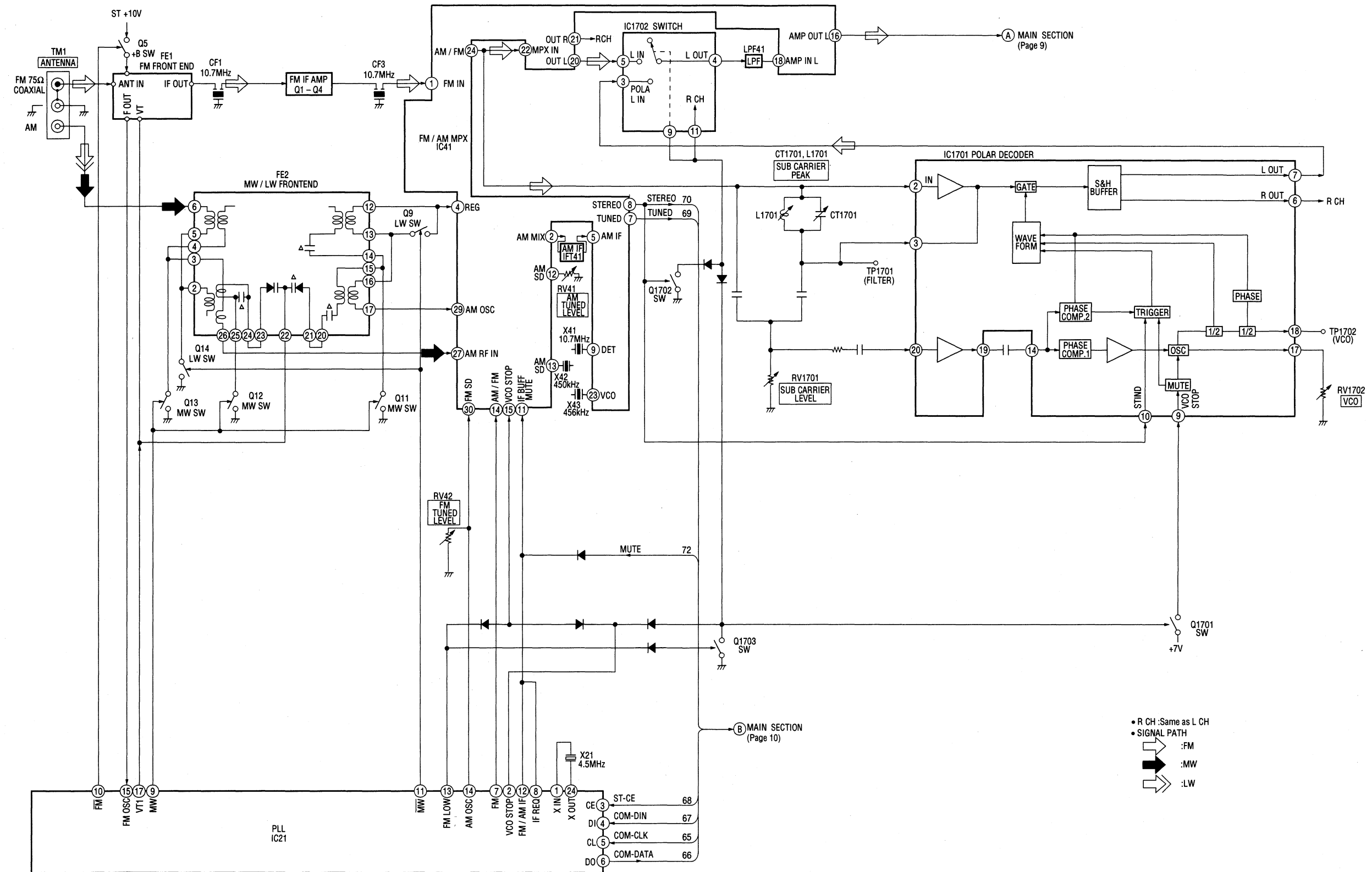


### 3. DIAGRAMS

#### BLOCK DIAGRAM – TUNER Section – (RX70: AEP, AED, G, UK Models)

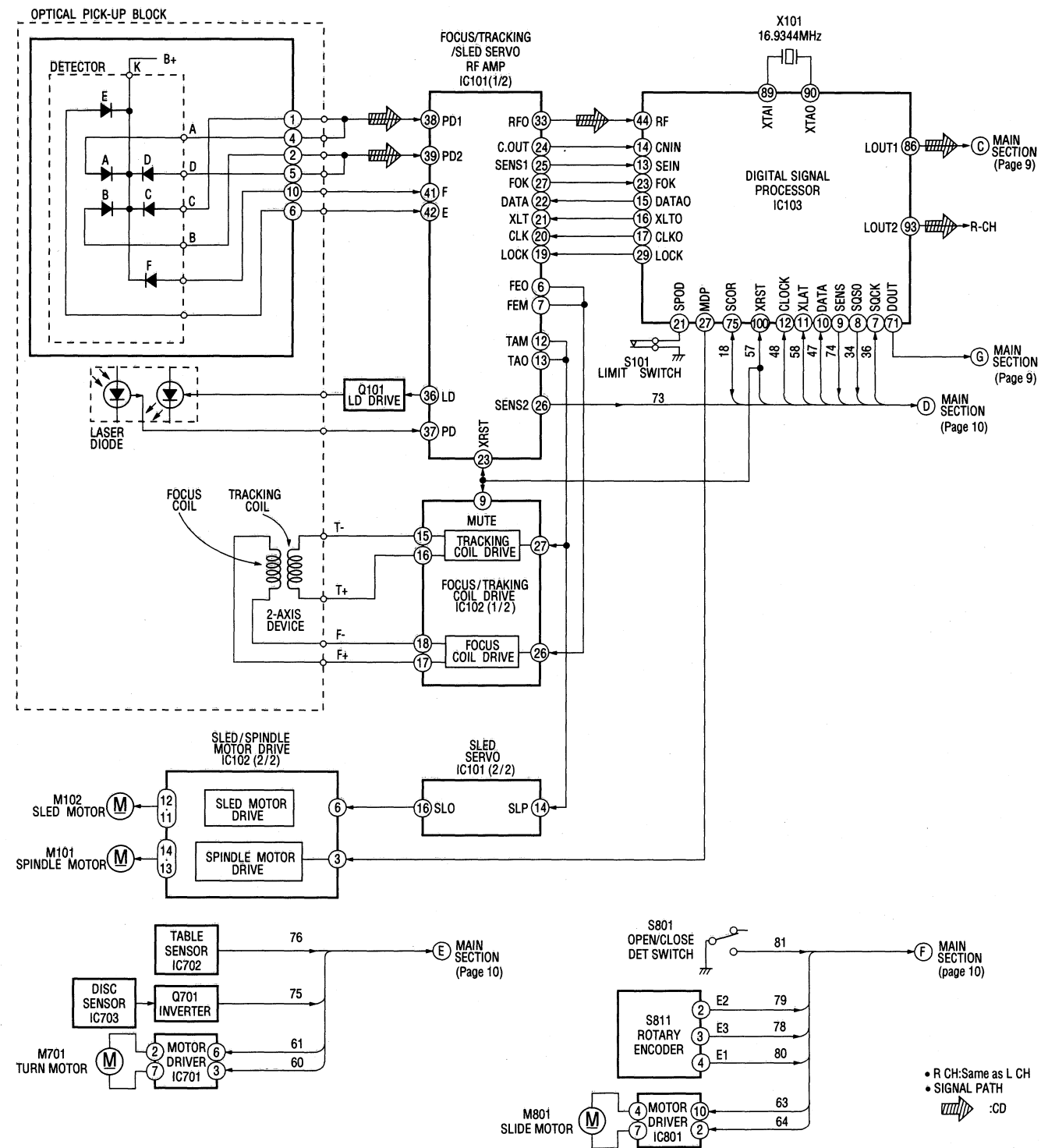


## BLOCK DIAGRAM – TUNER Section – (East European, CIS Models)

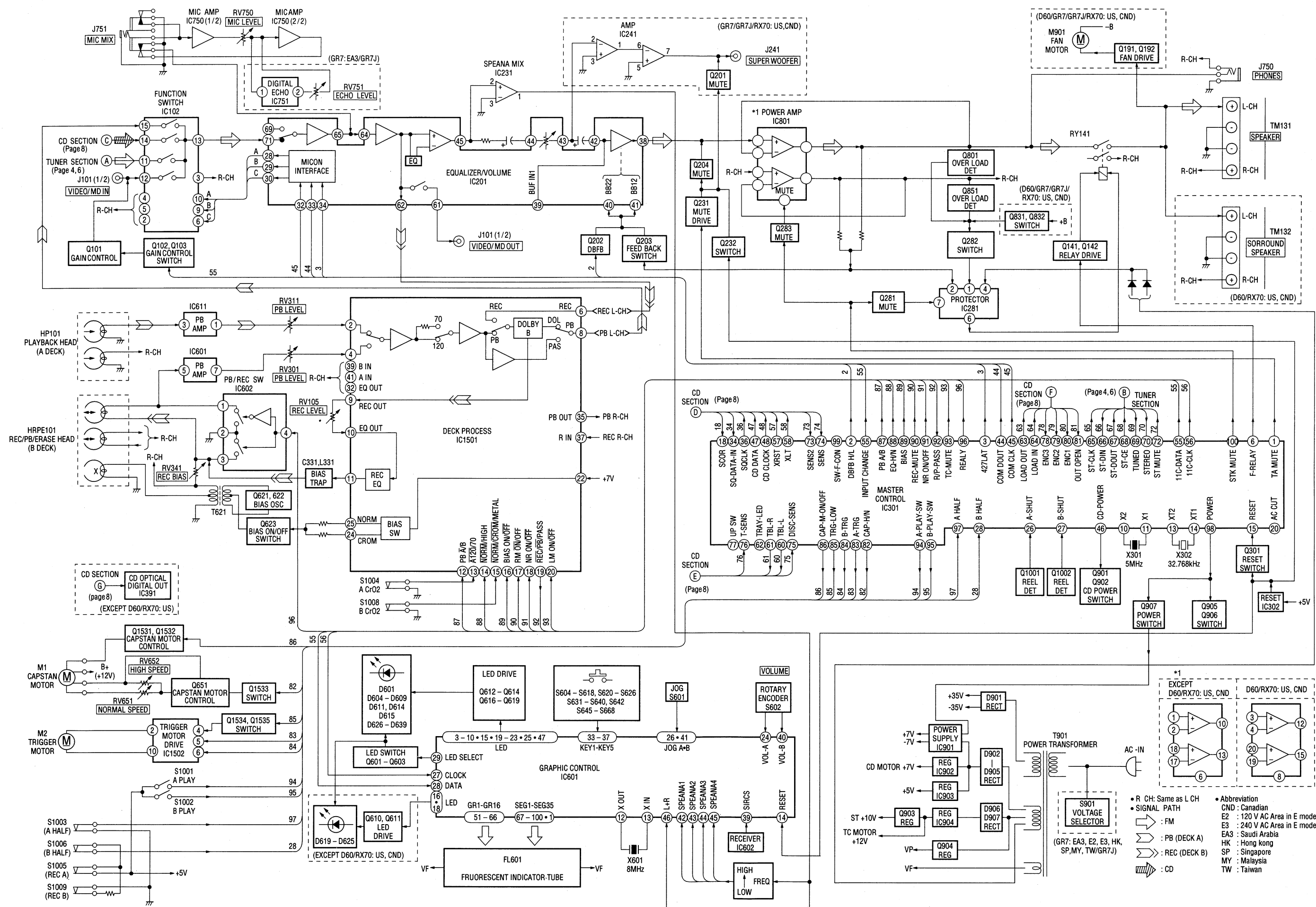


HCD-D60/GR7/GR7J/RX70

BLOCK DIAGRAM – CD Section –

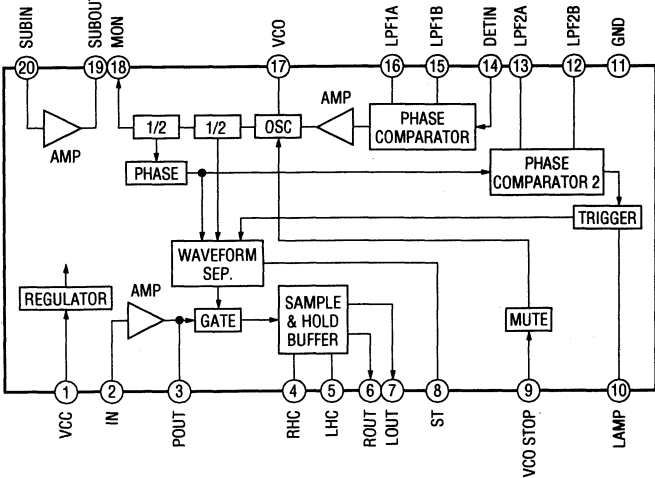


**BLOCK DIAGRAM – MAIN Section –**

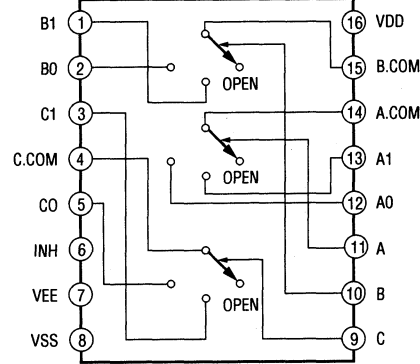


• IC Block Diagrams

IC1701 IR3R42 (East European, CIS models)

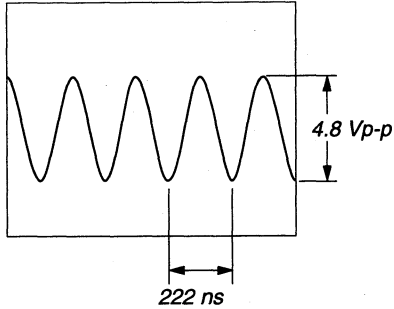


IC1702 MC14053BCP (East European, CIS models)

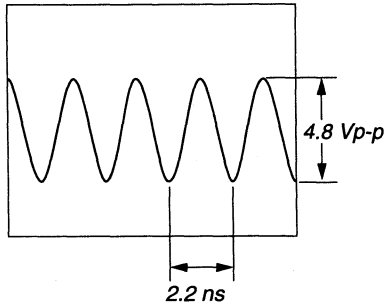


• Waveforms

12 IC21 24 (XOUT)



13 IC41 23 (VCO)



Note

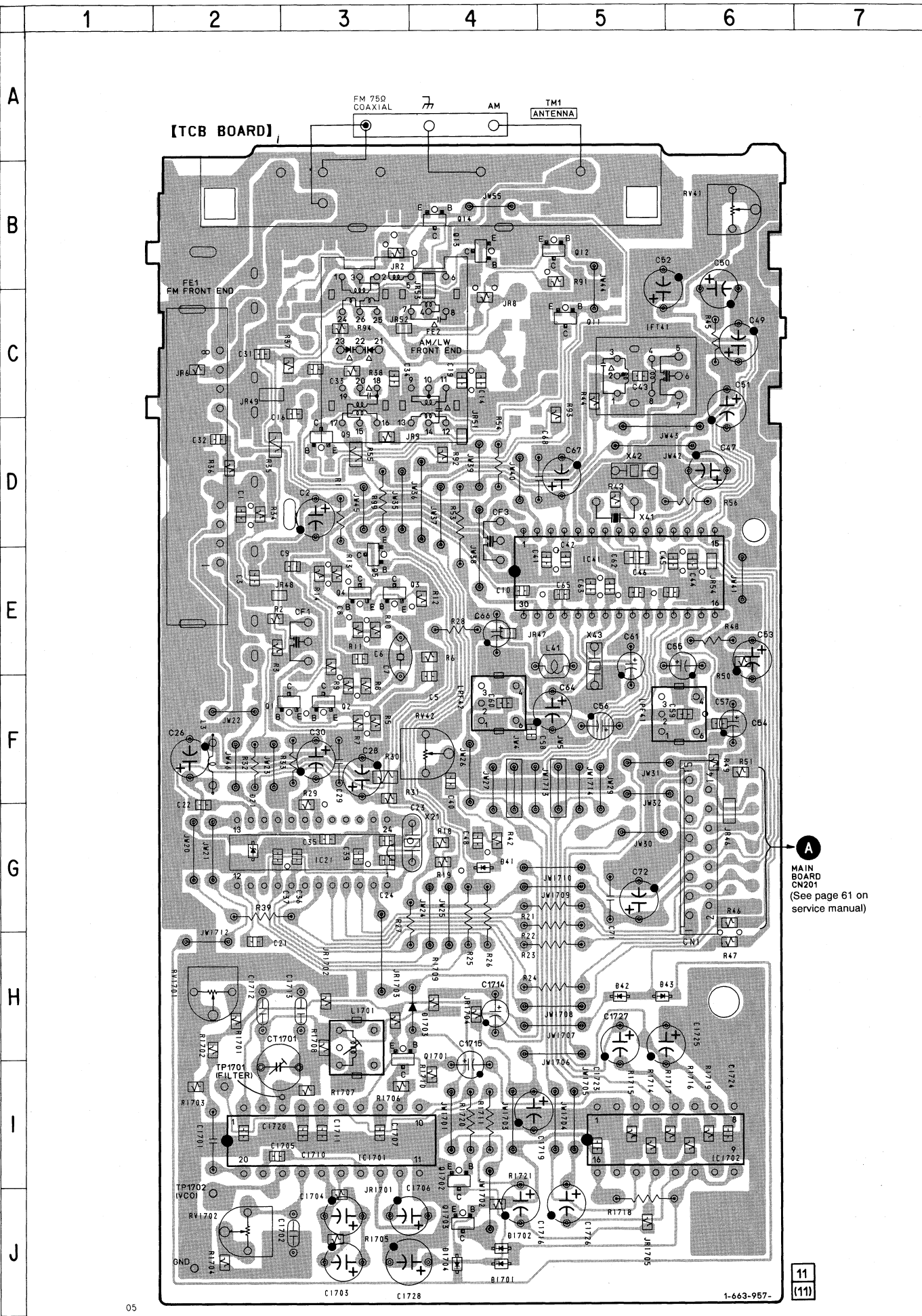
- : parts extracted from the component side.
- △ : internal component.

• Semiconductor Location

| Ref. No. | Location |
|----------|----------|
| D21      | G-2      |
| D41      | G-4      |
| D42      | H-5      |
| D43      | H-5      |
| D1701    | J-4      |
| D1702    | J-4      |
| D1703    | H-4      |
| D1704    | J-4      |
| IC21     | G-3      |
| IC41     | E-5      |
| IC1701   | I-3      |
| IC1702   | I-6      |
| Q1       | F-3      |
| Q2       | F-3      |
| Q3       | E-3      |
| Q4       | E-3      |
| Q5       | E-3      |
| Q9       | D-3      |
| Q11      | C-5      |
| Q12      | B-5      |
| Q13      | B-4      |
| Q14      | B-4      |
| Q1701    | I-3      |
| Q1702    | J-4      |
| Q1703    | J-4      |

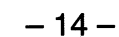
PRINTED WIRING BOARD – TUNER Section – (East European, CIS Models)

• See page 36 on service manual for Ciecuit Boards Location.



MAIN BOARD CN201 (See page 61 on service manual)





## 4. ELECTRICAL PARTS LIST

## NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS  
All resistors are in ohms.  
METAL: Metal-film resistor.  
METAL OXIDE: Metal oxide-film resistor.  
F: nonflammable

- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

## • SEMICONDUCTORS

In each case, u:  $\mu$ , for example:uA. . . :  $\mu$ A. . . uPA. . . :  $\mu$ PA. . .uPB. . . :  $\mu$ PB. . . uPC. . . :  $\mu$ PC. . .uPD. . . :  $\mu$ PD. . .

## • CAPACITORS

uF:  $\mu$ F

## • COILS

uH:  $\mu$ H

When indicating parts by reference number, please include the board.

## • Abbreviation

EE : East European

| Ref. No. | Part No.     | Description                   | Remark         | Ref. No. | Part No.     | Description  | Remark          |
|----------|--------------|-------------------------------|----------------|----------|--------------|--------------|-----------------|
| *        | A-4303-570-A | TCB BOARD, COMPLETE (EE, CIS) |                | C45      | 1-163-038-91 | CERAMIC      | 100000PF 25V    |
|          |              | *****                         |                | C46      | 1-163-077-00 | CERAMIC CHIP | 0.1uF 10% 25V   |
|          |              | < CAPACITOR >                 |                | C47      | 1-126-967-11 | ELECT        | 47uF 20% 16V    |
| C1       | 1-163-141-00 | CERAMIC CHIP                  | 0.001uF 5% 50V | C48      | 1-163-031-11 | CERAMIC      | 10000PF 50V     |
| C2       | 1-126-967-11 | ELECT                         | 47uF 20% 16V   | C49      | 1-126-959-11 | ELECT        | 0.47uF 20% 50V  |
| C3       | 1-163-038-91 | CERAMIC                       | 100000PF 25V   | C50      | 1-126-960-11 | ELECT        | 1.0uF 20% 50V   |
| C5       | 1-163-031-11 | CERAMIC                       | 10000PF 50V    | C51      | 1-126-960-11 | ELECT        | 1.0uF 20% 50V   |
| C6       | 1-613-038-91 | CERAMIC                       | 10000PF 25V    | C52      | 1-126-963-11 | ELECT        | 4.7uF 20% 50V   |
| C7       | 1-101-004-00 | CERAMIC                       | 0.01uF 50V     | C53      | 1-126-964-11 | ELECT        | 10uF 20% 50V    |
| C8       | 1-163-031-11 | CERAMIC                       | 10000PF 50V    | C54      | 1-104-396-11 | ELECT        | 10uF 20% 16V    |
| C9       | 1-163-031-11 | CERAMIC                       | 10000PF 50V    | C55      | 1-104-396-11 | ELECT        | 10uF 20% 16V    |
| C10      | 1-163-031-11 | CERAMIC                       | 10000PF 50V    | C56      | 1-104-396-11 | ELECT        | 10uF 20% 16V    |
| C16      | 1-163-038-91 | CERAMIC                       | 100000PF 25V   | C57      | 1-163-017-00 | CERAMIC CHIP | 0.0047uF 5% 50V |
| C19      | 1-163-249-11 | CHIP CERAMIC                  | 82PF 5% 50V    | C58      | 1-163-017-00 | CERAMIC CHIP | 0.0047uF 5% 50V |
| C21      | 1-163-141-00 | CERAMIC CHIP                  | 0.001uF 5% 50V | C59      | 1-163-989-11 | CERAMIC CHIP | 0.033uF 10% 25V |
| C22      | 1-163-031-11 | CERAMIC                       | 10000PF 50V    | C60      | 1-163-989-11 | CERAMIC CHIP | 0.033uF 10% 25V |
| C23      | 1-163-235-11 | CHIP CERAMIC                  | 22PF 5% 50V    | C61      | 1-126-301-11 | ELECT        | 1uF 20% 50V     |
| C24      | 1-163-239-11 | CHIP CERAMIC                  | 33PF 5% 50V    | C62      | 1-163-141-00 | CERAMIC CHIP | 0.001uF 5% 50V  |
| C26      | 1-126-967-11 | ELECT                         | 47uF 20% 16V   | C63      | 1-163-017-00 | CERAMIC CHIP | 0.0047uF 5% 50V |
| C28      | 1-126-967-11 | ELECT                         | 47uF 20% 16V   | C64      | 1-126-967-11 | ELECT        | 47uF 20% 16V    |
| C29      | 1-162-306-11 | CERAMIC                       | 0.01uF 20% 16V | C65      | 1-163-031-11 | CERAMIC      | 10000PF 50V     |
| C30      | 1-126-961-11 | ELECT                         | 2.2uF 20% 50V  | C66      | 1-126-162-11 | ELECT        | 3.3uF 20% 50V   |
| C31      | 1-163-031-11 | CERAMIC                       | 10000PF 50V    | C67      | 1-126-933-11 | ELECT        | 100uF 20% 10V   |
| C32      | 1-163-038-91 | CERAMIC                       | 100000PF 25V   | C68      | 1-162-306-11 | CERAMIC      | 0.01uF 20% 16V  |
| C33      | 1-163-038-91 | CERAMIC                       | 100000PF 25V   | C71      | 1-162-306-11 | CERAMIC      | 0.01uF 20% 16V  |
| C34      | 1-163-229-11 | CHIP CERAMIC                  | 12PF 5% 50V    | C72      | 1-126-967-11 | ELECT        | 47uF 20% 16V    |
| C35      | 1-163-038-91 | CERAMIC                       | 100000PF 25V   | C1701    | 1-162-294-31 | CERAMIC      | 0.001uF 10% 50V |
| C36      | 1-163-141-00 | CERAMIC CHIP                  | 0.001uF 5% 50V | C1702    | 1-130-014-00 | PP FILM      | 470PF 5% 16V    |
| C37      | 1-163-141-00 | CERAMIC CHIP                  | 0.001uF 5% 50V | C1703    | 1-126-959-11 | ELECT        | 0.47uF 20% 50V  |
| C39      | 1-163-141-00 | CERAMIC CHIP                  | 0.001uF 5% 50V | C1704    | 1-126-959-11 | ELECT        | 0.47uF 20% 50V  |
| C40      | 1-163-031-11 | CERAMIC                       | 10000PF 50V    | C1705    | 1-163-035-00 | CERAMIC CHIP | 0.047uF 50V     |
| C41      | 1-163-031-11 | CERAMIC                       | 10000PF 50V    | C1706    | 1-126-960-11 | ELECT        | 1.0uF 20% 50V   |
| C42      | 1-163-038-91 | CERAMIC                       | 100000PF 25V   | C1707    | 1-163-129-00 | CERAMIC CHIP | 330P 5% 50V     |
| C43      | 1-163-038-91 | CERAMIC                       | 100000PF 25V   | C1710    | 1-163-141-00 | CERAMIC CHIP | 0.001uF 5% 50V  |
| C44      | 1-163-031-11 | CERAMIC                       | 10000PF 50V    | C1711    | 1-163-141-00 | CERAMIC CHIP | 0.001uF 5% 50V  |
|          |              |                               |                | C1712    | 1-130-736-11 | PP FILM      | 0.01uF 5% 16V   |

| Ref. No. | Part No.     | Description                      | Remark        | Ref. No. | Part No.     | Description               | Remark |
|----------|--------------|----------------------------------|---------------|----------|--------------|---------------------------|--------|
| C1713    | 1-130-736-11 | PP FILM                          | 0.01uF 5% 16V | JR9      | 1-216-295-91 | CONDUCTOR, CHIP (2012)    |        |
| C1714    | 1-126-960-11 | ELECT                            | 1.0uF 20% 50V | JR46     | 1-216-296-91 | CONDUCTOR, CHIP (3216)    |        |
| C1715    | 1-126-960-11 | ELECT                            | 1.0uF 20% 50V | JR47     | 1-216-295-91 | CONDUCTOR, CHIP (2012)    |        |
| C1716    | 1-126-960-11 | ELECT                            | 1.0uF 20% 50V | JR48     | 1-216-295-91 | CONDUCTOR, CHIP (2012)    |        |
| C1719    | 1-126-967-11 | ELECT                            | 47uF 20% 16V  | JR49     | 1-216-296-91 | CONDUCTOR, CHIP (3216)    |        |
| C1720    | 1-163-031-11 | CERAMIC CHIP                     | 0.01uF 50V    | JR51     | 1-216-295-91 | CONDUCTOR, CHIP (2012)    |        |
| C1723    | 1-163-031-11 | CERAMIC CHIP                     | 0.01uF 50V    | JR52     | 1-216-295-91 | CONDUCTOR, CHIP (2012)    |        |
| C1724    | 1-163-031-11 | CERAMIC CHIP                     | 0.01uF 50V    | JR53     | 1-216-296-91 | CONDUCTOR, CHIP (3216)    |        |
| C1725    | 1-126-967-11 | ELECT                            | 47uF 20% 16V  | JR54     | 1-216-295-91 | CONDUCTOR, CHIP (2012)    |        |
| C1726    | 1-126-960-11 | ELECT                            | 1.0uF 20% 50V | JR1701   | 1-216-295-91 | CONDUCTOR, CHIP (2012)    |        |
| C1727    | 1-126-960-11 | ELECT                            | 1.0uF 20% 50V | JR1702   | 1-216-295-91 | CONDUCTOR, CHIP (2012)    |        |
| C1728    | 1-126-966-11 | ELECT                            | 33uF 20% 16V  | JR1703   | 1-216-295-91 | CONDUCTOR, CHIP (2012)    |        |
|          |              | < FILTER >                       |               | JR1704   | 1-216-295-91 | CONDUCTOR, CHIP (2012)    |        |
| CF1      | 1-567-389-11 | FILTER, CERAMIC                  |               | JR1705   | 1-216-295-91 | CONDUCTOR, CHIP (2012)    |        |
| CF3      | 1-567-389-11 | FILTER, CERAMIC                  |               |          |              | < COIL >                  |        |
|          |              | < CONNECTOR >                    |               | L3       | 1-410-521-11 | INDUCTOR, MICRO 100uH     |        |
| * CN1    | 1-568-834-11 | SOCKET, CONNECTOR 15P            |               | L41      | 1-407-500-00 | MICRO INDUCTOR 4.7mH      |        |
|          |              | < TRIMMER >                      |               | L1701    | 1-409-497-11 | COIL (FILTER)             |        |
| CT1701   | 1-141-444-11 | CAP, CERAMIC TRIMMER 50PF        |               |          |              | < FILTER >                |        |
|          |              | < DIODE >                        |               | LPF41    | 1-239-845-11 | FILTER, LOW PASS          |        |
| D21      | 8-719-976-99 | DIODE UDZ-TE-17-5.1B             |               | LPF42    | 1-239-845-11 | FILTER, LOW PASS          |        |
| D41      | 8-719-016-74 | DIODE 1SS352-TPH3                |               |          |              | < TRANSISTOR >            |        |
| D42      | 8-719-016-74 | DIODE 1SS352-TPH3                |               | Q1       | 8-729-201-27 | TRANSISTOR 2SC2715Y-TE85L |        |
| D43      | 8-719-016-74 | DIODE 1SS352-TPH3                |               | Q2       | 8-729-201-27 | TRANSISTOR 2SC2715Y-TE85L |        |
| D1701    | 8-719-016-74 | DIODE 1SS352-TPH3                |               | Q3       | 8-729-201-27 | TRANSISTOR 2SC2715Y-TE85L |        |
| D1702    | 8-719-016-74 | DIODE 1SS352-TPH3                |               | Q4       | 8-729-201-27 | TRANSISTOR 2SC2715Y-TE85L |        |
| D1703    | 8-719-987-63 | DIODE 1N4148M-TA                 |               | Q5       | 8-729-424-08 | TRANSISTOR MUN2111T1      |        |
| D1704    | 8-719-016-74 | DIODE 1SS352-TPH3                |               | Q9       | 8-729-216-22 | TRANSISTOR 2SA812-T1-M5M6 |        |
|          |              | < FRONTEND >                     |               | Q11      | 8-729-421-22 | TRANSISTOR MUN2211T1      |        |
| FE1      | 1-693-335-11 | FRONT END (3 GANG)               |               | Q12      | 8-729-421-22 | TRANSISTOR MUN2211T1      |        |
| FE2      | 1-233-514-11 | ENCAPSULATED COMPONENT           |               | Q13      | 8-729-421-22 | TRANSISTOR MUN2211T1      |        |
|          |              | < IC >                           |               | Q14      | 8-729-421-22 | TRANSISTOR MUN2211T1      |        |
| IC21     | 8-759-288-54 | IC LC72130                       |               | Q1701    | 8-729-424-08 | TRANSISTOR MUN2111T1      |        |
| IC41     | 8-759-176-03 | IC LA1835                        |               | Q1702    | 8-729-038-23 | TRANSISTOR RT1N141C-TP-1  |        |
| IC1701   | 8-759-063-04 | IC IR3R42                        |               | Q1703    | 8-729-421-22 | TRANSISTOR MUN2211T1      |        |
| IC1702   | 8-759-140-53 | IC MC14053BCP                    |               |          |              | < RESISTOR >              |        |
|          |              | < IFT >                          |               | R1       | 1-249-401-11 | CARBON 47 5% 1/4W         |        |
| IFT41    | 1-409-636-11 | TRANSFORMER, IF (CERAMIC FILTER) |               | R2       | 1-216-037-00 | METAL CHIP 330 5% 1/10W   |        |
|          |              | < CHIP CONDUCTOR >               |               | R3       | 1-216-037-00 | METAL CHIP 330 5% 1/10W   |        |
| JR2      | 1-216-295-91 | CONDUCTOR, CHIP (2012)           |               | R5       | 1-216-037-00 | METAL CHIP 330 5% 1/10W   |        |
| JR6      | 1-216-295-91 | CONDUCTOR, CHIP (2012)           |               | R6       | 1-216-081-00 | METAL CHIP 22K 5% 1/10W   |        |
| JR8      | 1-216-295-91 | CONDUCTOR, CHIP (2012)           |               | R7       | 1-216-037-00 | METAL CHIP 330 5% 1/10W   |        |
|          |              |                                  |               | R8       | 1-216-037-00 | METAL CHIP 330 5% 1/10W   |        |
|          |              |                                  |               | R9       | 1-216-081-00 | METAL CHIP 22K 5% 1/10W   |        |
|          |              |                                  |               | R10      | 1-216-037-00 | METAL CHIP 330 5% 1/10W   |        |
|          |              |                                  |               | R11      | 1-216-081-00 | METAL CHIP 22K 5% 1/10W   |        |

| Ref. No. | Part No.     | Description            |      |    | Remark | Ref. No. | Part No.     | Description                   |      |    | Remark |
|----------|--------------|------------------------|------|----|--------|----------|--------------|-------------------------------|------|----|--------|
| R12      | 1-216-037-00 | METAL CHIP             | 330  | 5% | 1/10W  | R1714    | 1-216-067-00 | METAL CHIP                    | 5.6K | 5% | 1/10W  |
| R13      | 1-216-037-00 | METAL CHIP             | 330  | 5% | 1/10W  | R1715    | 1-216-067-00 | METAL CHIP                    | 5.6K | 5% | 1/10W  |
| R14      | 1-216-081-00 | METAL CHIP             | 22K  | 5% | 1/10W  | R1716    | 1-216-097-91 | METAL CHIP                    | 100K | 5% | 1/10W  |
| R18      | 1-216-073-00 | METAL CHIP             | 10K  | 5% | 1/10W  | R1717    | 1-216-097-91 | METAL CHIP                    | 100K | 5% | 1/10W  |
| R19      | 1-216-073-00 | METAL CHIP             | 10K  | 5% | 1/10W  |          |              |                               |      |    |        |
| R21      | 1-249-417-11 | CARBON                 | 1K   | 5% | 1/4W   | R1718    | 1-249-429-11 | CARBON                        | 10K  | 5% | 1/4W   |
| R22      | 1-249-417-11 | CARBON                 | 1K   | 5% | 1/4W   | R1719    | 1-216-097-91 | METAL CHIP                    | 100K | 5% | 1/10W  |
| R23      | 1-249-417-11 | CARBON                 | 1K   | 5% | 1/4W   | R1720    | 1-249-434-11 | CARBON                        | 27K  | 5% | 1/4W   |
| R24      | 1-216-025-91 | CHIP (2012)            | 100  | 5% | 1/10W  | R1721    | 1-216-073-00 | METAL CHIP                    | 10K  | 5% | 1/10W  |
| R25      | 1-249-417-11 | CARBON                 | 1K   | 5% | 1/4W   |          |              |                               |      |    |        |
|          |              |                        |      |    |        |          |              | < VARIABLE RESISTOR >         |      |    |        |
| R26      | 1-249-437-11 | CARBON                 | 47K  | 5% | 1/4W   | RV41     | 1-238-601-11 | ADJ, CARBON 22K               |      |    |        |
| R27      | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W   | RV42     | 1-238-600-11 | ADJ, CARBON 10K               |      |    |        |
| R28      | 1-249-417-11 | CARBON                 | 1K   | 5% | 1/4W   | RV1701   | 1-238-600-11 | ADJ, CARBON 10K               |      |    |        |
| R29      | 1-216-061-00 | METAL CHIP             | 3.3K | 5% | 1/10W  | RV1702   | 1-238-599-11 | ADJ, CARBON 4.7K              |      |    |        |
| R30      | 1-216-186-00 | CHIP (3216)            | 330  | 5% | 1/8W   |          |              |                               |      |    |        |
|          |              |                        |      |    |        |          |              | < TERMINAL >                  |      |    |        |
| R31      | 1-216-025-91 | CHIP (2012)            | 100  | 5% | 1/10W  | TM1      | 1-537-488-11 | TERMINAL BOARD (ANT)(ANTENNA) |      |    |        |
| R32      | 1-249-425-11 | CARBON                 | 4.7K | 5% | 1/4W   |          |              |                               |      |    |        |
| R33      | 1-249-425-11 | CARBON                 | 4.7K | 5% | 1/4W   |          |              | < VIBRATOR >                  |      |    |        |
| R34      | 1-216-065-00 | METAL CHIP             | 4.7K | 5% | 1/10W  | X21      | 1-760-549-11 | VIBRATOR, CRYSTAL (4.5MHz)    |      |    |        |
| R35      | 1-216-214-00 | CHIP (3216)            | 4.7K | 5% | 1/8W   | X41      | 1-760-220-11 | FILTER, CERAMIC               |      |    |        |
|          |              |                        |      |    |        | X42      | 1-527-981-00 | FILTER, CERAMIC               |      |    |        |
| R36      | 1-216-025-91 | CHIP (2012)            | 100  | 5% | 1/10W  | X43      | 1-577-075-11 | OSCILLATOR, CERAMIC (456kHz)  |      |    |        |
| R37      | 1-216-073-00 | METAL CHIP             | 10K  | 5% | 1/10W  |          |              | *****                         |      |    |        |
| R38      | 1-216-089-91 | CHIP (2012)            | 47K  | 5% | 1/10W  |          |              |                               |      |    |        |
| R39      | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W   |          |              |                               |      |    |        |
| R42      | 1-216-073-00 | METAL CHIP             | 10K  | 5% | 1/10W  |          |              |                               |      |    |        |
|          |              |                        |      |    |        |          |              |                               |      |    |        |
| R43      | 1-216-042-00 | METAL CHIP             | 510  | 5% | 1/10W  |          |              |                               |      |    |        |
| R44      | 1-216-013-00 | METAL CHIP             | 33   | 5% | 1/10W  |          |              |                               |      |    |        |
| R45      | 1-247-843-11 | CARBON (SMALL)         | 3.3K | 5% | 1/4W   |          |              |                               |      |    |        |
| R46      | 1-216-073-00 | METAL CHIP             | 10K  | 5% | 1/10W  |          |              |                               |      |    |        |
| R47      | 1-216-097-91 | CHIP (2012)            | 100K | 5% | 1/10W  |          |              |                               |      |    |        |
|          |              |                        |      |    |        |          |              |                               |      |    |        |
| R48      | 1-249-417-11 | CARBON                 | 1K   | 5% | 1/4W   |          |              |                               |      |    |        |
| R49      | 1-216-049-91 | CHIP (2012)            | 1.0K | 5% | 1/10W  |          |              |                               |      |    |        |
| R50      | 1-216-065-00 | METAL CHIP             | 4.7K | 5% | 1/10W  |          |              |                               |      |    |        |
| R51      | 1-216-065-00 | METAL CHIP             | 4.7K | 5% | 1/10W  |          |              |                               |      |    |        |
| R53      | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W   |          |              |                               |      |    |        |
|          |              |                        |      |    |        |          |              |                               |      |    |        |
| R55      | 1-216-162-00 | CHIP (3216)            | 33   | 5% | 1/8W   |          |              |                               |      |    |        |
| R56      | 1-249-393-11 | CARBON                 | 10   | 5% | 1/4W   |          |              |                               |      |    |        |
| R91      | 1-216-295-91 | CONDUCTOR, CHIP (2012) |      |    |        |          |              |                               |      |    |        |
| R92      | 1-216-073-00 | METAL CHIP             | 10K  | 5% | 1/10W  |          |              |                               |      |    |        |
| R99      | 1-249-399-11 | CARBON                 | 33   | 5% | 1/4W   |          |              |                               |      |    |        |
|          |              |                        |      |    |        |          |              |                               |      |    |        |
| R1701    | 1-216-081-00 | METAL CHIP             | 22K  | 5% | 1/10W  |          |              |                               |      |    |        |
| R1702    | 1-216-085-00 | METAL CHIP             | 33K  | 5% | 1/10W  |          |              |                               |      |    |        |
| R1703    | 1-216-069-00 | METAL CHIP             | 6.8K | 5% | 1/10W  |          |              |                               |      |    |        |
| R1704    | 1-216-076-00 | METAL CHIP             | 13K  | 5% | 1/10W  |          |              |                               |      |    |        |
| R1705    | 1-216-049-91 | METAL CHIP             | 1K   | 5% | 1/10W  |          |              |                               |      |    |        |
|          |              |                        |      |    |        |          |              |                               |      |    |        |
| R1706    | 1-216-049-91 | METAL CHIP             | 1K   | 5% | 1/10W  |          |              |                               |      |    |        |
| R1707    | 1-216-097-91 | METAL CHIP             | 100K | 5% | 1/10W  |          |              |                               |      |    |        |
| R1708    | 1-216-095-00 | METAL CHIP             | 82K  | 5% | 1/10W  |          |              |                               |      |    |        |
| R1709    | 1-216-089-91 | METAL CHIP             | 47K  | 5% | 1/10W  |          |              |                               |      |    |        |
| R1710    | 1-216-073-00 | METAL CHIP             | 10K  | 5% | 1/10W  |          |              |                               |      |    |        |
|          |              |                        |      |    |        |          |              |                               |      |    |        |
| R1711    | 1-249-429-11 | CARBON                 | 10K  | 5% | 1/4W   |          |              |                               |      |    |        |